

Manua1



Service



VL2000™ Spot Luminaire

02.9673.0010

VARI*LITE®
Express yourself.

VARI*LITE® - VL2000™ SPOT LUMINAIRE SERVICE MANUAL

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VARI*LITE® products are protected by one or more of the following patents, and other pending patent applications worldwide:

U. S. Patents No. 6,123,436; 6,113,252; 6,046,861; 6,031,749; 6,011,640; 5,969,868; 5,959,768; 5,934,794; 5,882,107; 5,829,868; 5,825,548; 5,798,619; 5,774,273; 5,769,527; 5,758,956; 5,728,994; 5,640,061; 5,590,954; 5,454,477; 5,432,691; 5,367,444; 5,329,431; 5,307,295; 5,282,121; 5,278,742; 5,209,560; 5,186,536; 5,073,847; 5,010,459; 4,980,806; 4,972,306; 4,800,474; 4,779,176; 4,701,833; 4,602,321;

U. S. Design Patents No. 439,356; 420,332; 417,300; 415,301; 413,995; 377,338; 366,712; 359,574; 350,408; 347,113;

Australia Patents No. 693,691; 683,695; 667,109; 649,264; 646,588; 586,095; 576,400; 546,433;

Australia Design Patents No. 128,796; 128,795;

Canada Patents No. 2,070,670; 2,050,375; 1,270,675; 1,259,058; 1,181,795;

Canada Design Patents No. 81,234; 81,233; 76,046;

European (UK) Patents No. 0 652 400; 0 586 049; 0 565 218; 0 547 732; 0 534 710; 0 495 305; 0 474 202; 0 379 970; 0 253 082; 0 253 081; 0 248 974; 0 192 882; 0 140 994; 0 060 068;

Germany Patents No. 694 25 943.8; 693 14 122.0; 692 08 615.3; 692 07 692.1; 691 31 478.0; 691 21 029.2; 690 33 385.4; 37 89 166.9; 37 68 727.1; 37 51 804.6; 37 50 201.8; 35 87 270.5; 32 79 888.1; 32 74 291.6;

Germany Design Patents No. M 98 01 745.4; M 96 04 515.9; M 96 04 514.0; M 94 07 689.8; M 94 02 951.2; M 499 03 583.6; M 498 11 203.9; G 93 12 884.3;

Spain Patents No. 2 090 191; 2 084 289; 2 020 960; 0 548 328;

Spain Utility Model Patent No. 2.031.748;

Spain Design Patents No. 0.137.502; 0.137.501; 0.133.573;

Greece Patent No. 910.400.544;

Hong Kong Patents No. 965/1990; 285/1987;

Japan Patents No. 2,843,696; 2,059,669; 2,055,324; 2,002,168; 1,966,525; 1,889,481; 1,792,721; 1,770,241; 1,723,825; 1,683,007; 1,533,011;

Japan Design Patents No. 985,985-1; 985,985; 947,552; 945,436-1; 945,436; 1,106,089; 1,077,598; 1,072,598; 1,060,414; 1,002,123;

Korea Patents No. 76,310; 42,639; 283,770; 181,180;

Korea Design Patents No. 209,896; 209,895;

Mexico Patent No. 180,148;

Singapore Patents No. 663/90; 134/87;

Taiwan Patents No. 78,726; 66,975; 65,380; 28,275;

United Kingdom Design Registrations No. 2082526; 2072562; 2056387; 2056386; 2042174; 2038212; 2033108; 2029499.

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VL2000™ Spot Luminaire Service Manual

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How To Obtain Warranty Service

A copy of the Vari-Lite, Inc. Limited Warranty was included in the shipping package for this VARI*LITE® product.

To obtain warranty service, please contact customer service at 1-877-VARI-LITE (1-877-827-4548) or customerservice@vari-lite.com and request a Return Material Authorization (RMA) for warranty service. You need to provide the model and serial number of the item being returned, a description of the problem or failure and the name of the registered user or organization. If available, you should have your sales invoice to establish the date of sale as the beginning of the warranty period.

Once you obtain the RMA, pack the product in its original packing material along with a copy of your invoice (if available) and write the RMA number legibly on or near the shipping address label. Return the unit, freight prepaid to:

Vari-Lite
10911 Petal Street
Dallas, Texas 75238
Attention: Warranty Service

As stated in the warranty, it is required that the shipment be insured and FOB our service center.

Confidential Property Disclosure

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Compliance Notice

FCC This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when this equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with Vari-Lite system, service, and safety guidelines, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his/her own expense.

Declaration of Conformity

We declare, under our sole responsibility, that this product complies with the relevant clauses of the following standards and harmonized documents:

Safety

EN 60950: 1999 Safety Standard for Information Technology Equipment

EMC

EN55022A: 1998 Radiated and Conducted Emissions

EN50082-1: 1997 Generic Immunity Standard

We certify that VARI*LITE products conform to the protection requirements of European council directives: 73/23/EEC (LVD) and 89/336/EEC (EMC)

Manual Revision History

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Safety Notice

It is extremely important to read ALL safety information and instructions provided in this manual and any accompanying documentation before installing and operating the products described herein. Heed all cautions and warnings during installation and use of this product.

Safety symbols used throughout this manual are as follows:



CAUTION advising of potential damage to product.



WARNING advising of potential injury or death to persons.

GENERAL INFORMATION PERTAINING TO PROTECTION AGAINST ELECTRICAL SHOCK, FIRE, EXPOSURE TO EXCESSIVE UV RADIATION, AND INJURY TO PERSONS CAN BE FOUND BELOW.

WARNING:

INSTRUCTIONS FOR CONTINUED PROTECTION AGAINST FIRE

1. VARI*LITE® luminaires have been designed for use only with certain Philips and Osram HID lamps. Note lamp type (MSR400, MSR575HR etc.) before replacing lamps. Installing another type of lamp may be hazardous.
2. Luminaires may be mounted on any type of surface as long as mounting instructions are followed. See instructions detailed in this manual.
3. Replace fuses with same type and rating only.
4. Note distance requirement from combustible materials or illuminated objects for VARI*LITE® luminaires.

WARNING:

INSTRUCTIONS FOR CONTINUED PROTECTION AGAINST ELECTRICAL SHOCK

1. VARI*LITE® luminaires are designed for dry locations only. Exposure to rain or moisture may damage luminaire.
2. Disconnect power before servicing any VARI*LITE® equipment.
3. Servicing to be performed by qualified personnel only.

**WARNING:
INSTRUCTIONS FOR CONTINUED PROTECTION AGAINST EXCESSIVE
EXPOSURE TO UV RADIATION**

1. Many VARI*LITE® luminaires use an HID type lamp that produces UV radiation. DO NOT look directly at lamp.
2. It is hazardous to operate luminaires without lens or shield. Shields, lenses, or ultraviolet screens shall be changed if they have become visibly damaged to such an extent that their effectiveness is impaired. For example, by cracks or deep scratches.

**WARNING:
INSTRUCTIONS FOR PROTECTION AGAINST INJURY TO PERSONS**

1. Exterior surfaces of the luminaire will be hot during operation. Use appropriate safety equipment (gloves, eye protection, etc.) when handling and adjusting hot equipment and components.
2. Luminaires will have a hot lamp when operating. Disconnect power and allow lamp to cool before replacing.
3. Arc lamps emit ultraviolet radiation which can cause serious skin burn and eye inflammation. Additionally, arc lamps operate under high pressure at very high temperatures. Should the lamp break, there can exist a danger of personal injury and/or fire from broken lamp particles being discharged.
4. Wear eye protection when relamping.
5. Appropriate safety equipment (gloves, eye protection) should be used when handling damaged lamps.
6. If lamp is touched with bare hands, clean lamp with denatured alcohol and wipe with lint-free cloth before installing or powering up the luminaire.
7. The lamp shall be changed if it has become damaged or thermally deformed.

**WARNING:
RF INTERFERENCE**

1. This is a Class A product. In a domestic environment this product may cause radio interference, in which case, the user may be required to take adequate measures.

ARC LAMP CHARACTERISTIC CONSIDERATIONS

1. Arc lamps require a period of time to relight after a power interruption or a severe voltage dip. In some cases, lamp will automatically relight after it has cooled depending on Lamp Power-Up State (L ON/ LOFF) system configuration setting.
2. Burning position is Universal.

Sicherheitshinweise

Es ist äußerst wichtig, ALLE Sicherheitsinformationen und -hinweise in diesem Handbuch und dem beiliegenden Informationsmaterial zu lesen, bevor Sie die hierin beschriebenen Produkte installieren bzw. bedienen. Halten Sie bei der Installation und dem Einsatz dieses Produkts alle Warnhinweise und Vorsichtsmaßnahmen ein.

Folgende Sicherheitssymbole werden in diesem Handbuch verwendet:



VORSICHT - weist auf möglichen Produktschaden hin.



WARNUNG - weist auf mögliche Körperverletzung und Lebensbedrohung hin.

NACHSTEHEND FINDEN SIE ALLGEMEINE HINWEISE ÜBER SICHERHEITSVORKEHRUNGEN GEGEN ELEKTROSCHOCK, FEUER, ÜBERHÖHTE UV-STRAHLUNG UND KÖRPERVERLETZUNGEN.

WARNUNG:

HINWEISE ZUM FEUERSCHUTZ

1. VARI*LITE®-Scheinwerfer sind ausschließlich für den Einsatz mit bestimmten Philips und Osram HID-Lampen geeignet. Achten Sie auf den Lampentyp (MSR400, MSR575HR etc.), bevor Sie die jeweiligen Lampen ersetzen. Die Installation eines anderen Lampentyps kann gefährlich sein.
2. Scheinwerfer können auf jeder beliebigen Oberfläche montiert werden, solange Sie die Montageanweisungen befolgen. Detaillierte Hinweise finden Sie in diesem Handbuch.
3. Ersetzen Sie Sicherungen nur mit Sicherungen vom gleichen Typ und gleicher Stärke.
4. Beachten Sie die Einhaltung des erforderlichen Sicherheitsabstandes der VARI*LITE®-Scheinwerfer von brennbarem Material oder beleuchteten Objekten.

WARNUNG:

HINWEISE ZUM SCHUTZ GEGEN ELEKTROSCHOCK

1. VARI*LITE®-Scheinwerfer eignen sich ausschließlich für trockene Standorte. Regen oder Feuchtigkeit können die Scheinwerfer beschädigen.
2. Unterbrechen Sie die Stromzufuhr, bevor Sie mit der Arbeit an VARI*LITE®-Geräten beginnen.
3. Die Geräte sollten nur von qualifiziertem Personal gewartet werden.

WARNUNG:

HINWEISE ZUM SCHUTZ GEGEN ÜBERHÖHTE UV-STRAHLUNG

1. Viele VARI*LITE®-Scheinwerfer verwenden einen HID-Lampentyp, der UV-Strahlen abgibt. SCHAUEN SIE NICHT direkt in die Lampe.

2. Es ist gefährlich, Leuchten ohne Linsen oder Blenden zu bedienen. Blenden, Linsen oder Ultraviolettsschirme müssen ausgetauscht werden, sofern deren Schutzwirkung durch sichtbare Beschädigung (z. B. Sprünge oder Schrammen) eingeschränkt ist.

WARNUNG:

HINWEISE ZUM SCHUTZ GEGEN KÖRPERVERLETZUNGEN

1. Bei Betrieb sind die Außenflächen der Scheinwerfer heiß. Verwenden Sie bei der Bedienung von aufgeheizter Apparatur die jeweils geeignete Sicherheitsausrüstung (Handschuhe, Augenschutz etc.).
2. Bei Betrieb der Scheinwerfer ist die Lampe heiß. Unterbrechen Sie die Stromzufuhr und lassen Sie die Lampe abkühlen, wenn Sie diese austauschen.
3. Bogenlampen senden ultraviolette Strahlen aus, die Hautverbrennungen und Augenentzündungen verursachen können. Der Betrieb von Bogenlampen erfolgt unter Hochdruck und bei hohen Temperaturen. Sollte die Lampe zerbrechen, besteht die Gefahr von Körperverletzung bzw. von Feuer, das von Lampenteilen ausgelöst werden kann.
4. Tragen Sie beim Austausch der Lampen einen Augenschutz.
5. Die geeignete Sicherheitsausrüstung (Handschuhe, Augenschutz) sollte beim Umgang mit beschädigten Lampen verwendet werden.
6. Wenn die Lampe mit bloßen Händen berührt wird, reinigen Sie sie mit denaturiertem Alkohol und einem flusenfreien Tuch, bevor Sie die Scheinwerfer installieren oder in Betrieb nehmen.
7. Wenn die Lampe beschädigt oder durch Hitzeeinwirkung deformiert ist, muß diese ausgetauscht werden.

WARNUNG:

HF-INTERFERENZ

1. Es handelt sich um ein Produkt der Klasse A. In einer Wohnumgebung kann das Produkt Hochfrequenzstörungen verursachen. In diesem Fall müssen eventuell geeignete Maßnahmen getroffen werden.

BESONDERHEITEN VON BOGENLAMPEN

1. Bogenlampen benötigen eine gewisse Zeitdauer, um nach einem Stromausfall oder einem Spannungsgefälle wieder aufzuleuchten. In einigen Fällen wird die Lampe nach Abkühlung automatisch wieder aufleuchten, je nach der Systemkonfigurationseinstellung des Lampeneinschaltungsstatus (L ON/ LOFF).
2. Die Brennposition ist Universal.

Notes de sécurité

Avant de procéder à l'installation des produits décrits dans ce guide et de les mettre en marche, il est extrêmement important de lire TOUS les renseignements et TOUTES les directives de sécurité contenues dans ce guide ainsi que toute documentation jointe. Tenir compte de tous les avertissements et suivre toutes les précautions pendant l'installation et l'utilisation de cet appareil.

Les symboles de sécurité utilisés dans ce guide sont les suivants :



ATTENTION Ce symbole annonce que l'appareil risque d'être endommagé.



AVERTISSEMENT Ce symbole annonce qu'il y a risque d'accident grave ou même fatal.

CETTE SECTION CONTIENT DES INFORMATIONS GÉNÉRALES POUR SE PROTÉGER CONTRE LES DÉCHARGES ÉLECTRIQUES, LES INCENDIES, L'EXPOSITION EXCESSIVE AUX RAYONS UV ET TOUT AUTRE ACCIDENT POUVANT ENTRAÎNER DES BLESSURES.

AVERTISSEMENT:

DIRECTIVES POUR SE PROTÉGER CONTRE LES INCENDIES

1. Les luminaires VARI*LITE® ont été conçus pour être utilisés uniquement avec certaines lampes Philips et Osram HID. Vérifier le type de lampe (MSR400, MSR575HR etc.) avant de remplacer les lampes. L'installation d'un autre type de lampe peut poser un danger.
2. Les luminaires peuvent être fixés sur tout type de surface tant que les directives de montage sont respectées. Voir les explications détaillées dans ce guide.
3. Ne remplacer les fusibles qu'avec ceux du même type, ayant les mêmes caractéristiques.
4. Vérifier la distance à respecter entre les matériaux combustibles ou les objets illuminés et les luminaires VARI*LITE®.

AVERTISSEMENT:

DIRECTIVES POUR SE PROTÉGER CONTRE LES DÉCHARGES ÉLECTRIQUES

1. Les luminaires VARI*LITE® sont conçus pour une utilisation au sec uniquement. Une exposition à la pluie et à l'humidité risque d'endommager le luminaire.
2. Débrancher l'appareil avant de procéder à la révision de tout matériel VARI*LITE®.
3. Les révisions doivent être effectuées uniquement par des personnes qualifiées.

**AVERTISSEMENT:
DIRECTIVES POUR SE PROTÉGER CONTRE UNE EXPOSITION EXCESSIVE
AUX RAYONS UV**

1. Plusieurs luminaires VARI*LITE® utilisent une lampe de type HID qui produit des rayons UV. NE PAS fixer son regard sur la lampe.
2. L'utilisation des luminaires sans lentille ou blindage pose des risques. Tous blindages, lentilles ou écrans ultraviolet visiblement endommagés au point que leur efficacité en est affectée doivent être remplacés, par exemple s'il y a des fissures ou de profondes rayures.

**AVERTISSEMENT:
DIRECTIVES POUR SE PROTÉGER CONTRE LES ACCIDENTS POUVANT
ENTRAÎNER DES BLESSURES**

1. Les surfaces externes du luminaire deviennent brûlantes quand l'appareil est en marche. Pour manœuvrer ou ajuster des appareils brûlants et leurs composants, se protéger suffisamment (gants, protection pour les yeux, etc.).
2. La lampe du luminaire est brûlante lorsqu'il est en marche. Débrancher le courant et attendre que la lampe ait refroidi avant de la remplacer.
3. Les lampes à arc émettent des rayons ultraviolets pouvant causer de graves brûlures sur la peau et une inflammation des yeux. De plus, les lampes à arc fonctionnent sous haute tension à de très hautes températures. Si la lampe se casse, les particules de la lampe cassée peuvent causer blessures et/ou incendie en s'éparpillant.
4. Se protéger les yeux pour remplacer la lampe.
5. Utiliser des appareils de protection appropriés (gants, protection des yeux) pour manier des lampes endommagées.
6. Si la lampe a été touchée avec des mains nues, la nettoyer avec de l'alcool dénaturé et l'essuyer avec un chiffon non-pelucheux avant d'installer ou de brancher le luminaire.
7. Si la lampe a été endommagée ou a reçu une déformation thermique, elle doit être remplacée.

**AVERTISSEMENT:
INTERFÉRENCE RF**

1. Cet appareil est de Classe A. Dans un environnement domestique, cet appareil peut causer des interférences radio, et si c'est le cas, l'utilisateur peut avoir à prendre des mesures adéquates.

CONSIDÉRATIONS DES CARACTÉRISTIQUES DE LAMPES À ARC

1. Après une interruption de courant ou une baisse importante de voltage, les lampes à arc mettent du temps avant de se rallumer. Dans certains cas, la lampe se rallumera automatiquement après s'être refroidie. Cela dépend de la manière dont le système est réglé pour le statut de mise en marche de la lampe (L ON/ LOFF).
2. La position Brûler est Universelle.

Aviso sobre Seguridad

Es muy importante leer TODA la información e instrucciones sobre seguridad que se indica en este manual así como en los documentos adjuntos antes de instalar y operar los productos descritos. Se debe prestar atención a todos los avisos y advertencias durante la instalación y uso de este producto.

Los símbolos de seguridad usados en este manual son los siguientes:



CUIDADO, indica posibles daños al producto.



ADVERTENCIA, indica posibles lesiones o muerte a las personas.

LA INFORMACIÓN GENERAL RELACIONADA A LA PROTECCIÓN CONTRA GOLPES DE CORRIENTE ELÉCTRICA, INCENDIO, EXPOSICIÓN EXCESIVA A RADIACIÓN ULTRA VIOLETA Y LESIONES A LAS PERSONAS SE PUEDE ENCONTRAR SEGUIDAMENTE:

ADVERTENCIA:

INSTRUCCIONES PARA PROTECCIÓN CONTINUA CONTRA INCENDIO

1. Las luminarias VARI*LITE® han sido diseñadas para ser usadas solamente con algunas lámparas HID Philips y Osram. Tome nota del tipo de lámpara (MSR400, MSR575HR etc.) antes de reemplazarla. Instalación de otro tipo de lámpara puede ser peligroso.
2. Las luminarias se pueden instalar en cualquier tipo de superficie siempre que se sigan las instrucciones de instalación. Vea las instrucciones detalladas en este manual.
3. Reemplace los fusibles solamente con los del mismo tipo y especificación.
4. Tome nota de los requerimientos de distancia de materiales combustibles u objetos iluminados para las luminarias VARI*LITE®.

ADVERTENCIA:

INSTRUCCIONES PARA PROTECCIÓN CONTINUA CONTRA CHOQUE ELÉCTRICO

1. Las luminarias VARI*LITE® están diseñadas solamente para lugares secos. La exposición a la lluvia o humedad pueden dañar la luminaria.
2. Desconecte la energía antes de dar servicio a cualquier equipo de VARI*LITE®.
3. El servicio debe ser realizado solamente por personal calificado.

ADVERTENCIA:

INSTRUCCIONES PARA PROTECCIÓN CONTINUA CONTRA LA EXPOSICIÓN EXCESIVA DE RADIACIÓN ULTRA VIOLETA

1. Muchas luminarias VARI*LITE® usan un tipo de lámpara HID que produce radiación UV. NO mire directamente a la lámpara.
2. Es peligroso operar luminarias sin lentes o protectores. Debe cambiar los protectores, lentes o pantallas ultravioletas si se aprecia que han sido dañadas, y que su efectividad pudiera estar deteriorada. Por ejemplo, si tuvieran rajaduras o raspaduras profundas.

ADVERTENCIA:

INSTRUCCIONES PARA PROTECCIÓN CONTRA LESIONES DE PERSONAS

1. Las superficies exteriores de las luminarias están calientes durante su operación. Use un equipo de seguridad apropiado (guantes, protección para los ojos, etc.) cuando haga ajustes en el equipo y componentes que están calientes.
2. Cuando las luminarias están en operación la lámpara estará muy caliente. Desconecte la energía y deje que la lámpara se enfríe antes de reemplazarla.
3. Las lámparas de arco emiten radiaciones ultravioletas que pueden ocasionar serias quemaduras a la piel e inflamación a los ojos. Además, las lámparas de arco operan a alta presión y muy alta temperatura. Si la lámpara se rompe, puede existir el peligro de lesiones al personal o un incendio ocasionado por las partículas de la lámpara rota que se caen.
4. Use protección para los ojos cuando vuelve a colocar una lámpara nueva.
5. Use un equipo de seguridad apropiado (guantes, protección para los ojos, etc.) cuando trabaje con lámparas dañadas.
6. Si toca la lámpara con las manos, limpie la lámpara con alcohol desnaturalizado y con tela sin pelusas antes de instalar o volver a conectar la luminaria.
7. Cambie la lámpara si está dañada o deformada termicamente.

ADVERTENCIA:

INTERFERENCIA RF

1. Este es un producto de Clase A. En el ambiente de la casa este producto puede ocasionar radiointerferencia, en cuyo caso, el usuario debe tomar las medidas adecuadas.

CONSIDERACIONES SOBRE LAS CARACTERÍSTICAS DE LA LÁMPARA DE ARCO

1. Las lámparas de arco requieren un período de tiempo para volver a iluminarse después de una interrupción de energía o de una severa caída de voltaje. En algunos casos, la lámpara se volverá a iluminar en forma automática después que se ha enfriado dependiendo de la configuración del sistema de energía de la lámpara (L ON / L OFF) (L encendida / L apagada).
2. La posición de encendido es universal.

安全性に関する注意事項

ここに記載されている製品を取り扱う場合は、まず本マニュアルおよび付属のマニュアルの安全性に関する情報と説明をすべてお読みください。また、実際に本製品を取り付けたり使用する際には、すべての注意事項および警告に留意して作業してください。

本マニュアルでは、以下の安全マークを使用しています。



注意：製品に損傷を与える危険性があります。



警告：人身事故につながる危険性があります。

感電、火災、UV放射に対する過度の露出、および人身事故を防ぐための一般的な情報については、以下の説明をお読みください。

警告：

火災の発生を防ぐためのヒント

1. VARI*LITE® 照明器具は、Philips および Osram の HID ランプを使用するように設計されています。ランプを交換する際は、ランプの種類（MSR400、MSR575HR など）を確認するようにしてください。他の種類のランプを取り付けると危険です。
2. 照明器具は、本マニュアルの指示に従って操作するかぎり、どのようなタイプの表面にでも取り付けることができます。詳細については、本マニュアルを参照してください。
3. ヒューズを交換する場合は、同じヒューズ（同じ種類、同じクラス）を使用してください。
4. VARI*LITE® 照明器具は、可燃性物質または他の光源から必要な距離だけ離して配置してください。

警告：

感電を防ぐためのヒント

1. VARI*LITE® 照明器具は、乾燥した環境で使用するように設計されています。雨で濡れる場所や湿気の多い場所に取り付けると、照明器具が傷むことがあります。
2. VARI*LITE® 照明器具を修理点検する場合は、必ず先に電源を切ってください。
3. 照明器具の修理点検は、資格を持つ技師のみが行うようにしてください。

警告：

過度の UV 放射にさらされないためのヒント

1. VARI*LITE® 照明器具の多くは、UV 放射を生ずる HID タイプのランプを使用しています。ランプを直視することは避けてください。
2. レンズまたはシールドを使わずに照明器具を点灯すると危険です。レンズ、シールド、紫外線画面は、ひび割れや深い引っかき傷などにより、その効力が損なわれるようになったら取り替えるようにします。

警告：

人身事故を防ぐためのヒント

1. 照明器具が点灯しているときは、その外側が熱くなります。熱くなった器具やコンポーネントを取り扱う際には、適切な防具（手袋や保護用眼鏡）を使用してください。
2. 照明器具が点灯しているときは、そのランプが熱くなります。ランプを交換する場合は、照明器具の電源を切り、ランプの温度が下がるまで待ってください。ランプの裏ぶたをあけると、遮断スイッチが働いて、ランプの電源が切れる場合があります。
3. アーク灯は紫外線を放射します。この紫外線によって、ひどい火傷を負ったり、目の炎症を起こすことがあります。さらに、アーク灯は、高圧高温の状態で光を放射します。そのため、万一アーク灯が破損すると、飛び散った破片で人身事故や火災が発生する危険性があります。
4. 再点灯するときには、保護用眼鏡を着用してください。
5. 損傷したランプを取り扱う場合は、適切な防具（手袋や保護用眼鏡）を着用してください。
6. 手袋を着用せずに直接手でランプを触った場合は、変性アルコールを使ってランプをきれいにし、糸くずの出ない布で拭いてから照明器具を取り付け、電源を入れるようにします。
7. 傷がついたランプや熱によって変形したランプは取り替えてください。

警告：

RF 干渉

1. 本製品は Class A に分類されます。本製品は、家庭環境において無線干渉を起こす可能性があります。その場合、使用者は適切な処置を取らなければならないことがあります。

アーク灯の特性

1. 停電後または大きな電圧ディップ後にアーク灯を再点灯する場合は、しばらく時間をおくようにしてください。Lamp Power-Up State (L ON/ L OFF) システム設定によっては、温度が下がったときに自動的に再点灯される場合があります。
2. アーク灯は点光源です。

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Introduction

About This Manual

This manual provides descriptions, repair procedures, and illustrated parts breakdowns for all configurations of the VL2000™ Spot Luminaire. The manual is intended for use by Vari-Lite personnel and by Vari-Lite's customers/clients.



WARNING: It is important to read ALL accompanying safety and installation instructions to avoid damage to the product and potential injury to yourself or others.

This manual covers the following models:

Model	Part Number	Source
VL2000 Spot Luminaire*	20.9673.0001	700W Arc
VL2201 Spot Luminaire	20.9667.0001	400W Arc

* Formerly known as the VL2202™ spot luminaire.

Note: Performing maintenance procedures contained in this manual may void the product warranty. Refer to the Vari-Lite, Inc. Limited Warranty card included in the shipping package for this VARI*LITE® product.

Additional Documentation

A support webpage for VL2000 series luminaires is available at www.vari-lite.com (follow the Support link).

A users manual is available for installation and operation of the VL2000 wash luminaire. This manual is available in both printed and electronic (PDF) formats.

- VL2000™ Spot Luminaire Users Manual (02.9673.0001).

Customer Service

Our Goal

At Vari-Lite, we are committed to providing you the highest quality in customer service. Our comprehensive resources are available to help your business succeed and ensure you get the full benefit of being a Vari-Lite customer. Whether your needs are telephone/troubleshooting assistance, product training or technical service, our full-time staff of experienced professionals are on-hand to provide support.

How to Reach Us

For assistance in your area, call the dealer from which your product(s) were purchased.

or

Contact an Authorized Service Center.

or

Contact the Vari-Lite Customer Service Department, 9am - 6pm CST Monday through Friday, at the following:

phone: 1-877-VARI-LITE (1-877-827-4548)

fax: 214.630.5867

email: customerservice@vari-lite.com

Additional Resources

For additional resources and documentation, please visit our website at: www.vari-lite.com and follow the Support link.

Technical Bulletins and Notices

Technical bulletins concerning the latest changes to VARI*LITE equipment are issued from the Dallas, Texas USA office. They are documentation supplements that contain procedures for equipment upgrades, retrofits, and repairs not found in the existing manuals. Operator technical bulletins are also issued to document changes in control software. Technical bulletins are integrated into the appropriate equipment manuals as those manuals are revised. Bulletins are categorized by assembly or subassembly, and identified by a number such as S2K-001 (VL2000 series luminaire Technical Bulletin number 1).

Technical notices are also issued from the Dallas, Texas USA office. They are non-procedural documents that contain information regarding product support issues, current equipment problems, software bugs, and documentation corrections. All technical notices begin with the prefix TN and are numbered sequentially, such as TN-138 (Tech Notice number 138).

CHAPTER 1.

Description

This chapter provides an overview of luminaire features, components and operations.

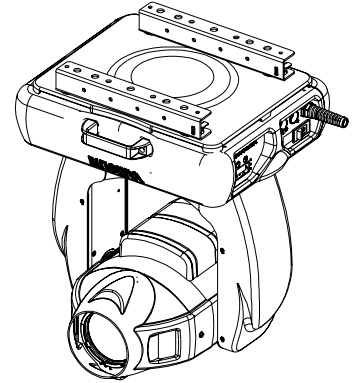
- **Features**
- **Major Components**
- **Principles of Operation**



Features

Overview

The VL2000 spot luminaire has been offered in two different configurations - VL2201™ spot luminaire and VL2202™ spot luminaire. The model number can be found next to the power switch.



Standard Features

All VL2000 series spot luminaires have the following standard features:

- Variable beam focus to soften the edges of gobos or spots and enable gobo morphing.
- Full field dimmer to allow smooth timed fades and fast blackouts.
- A mechanical iris which provides continuous beam size control for both rapid beam size changes and smooth timed beam angle changes.
- Rotatable gobo wheel which contains five individually rotatable, indexable gobos.
- Two, 12-position wheels, each providing 11 positions (and 1 open) for interchangeable dichroic color and gobo selections.
- Power factor corrected arc power supply for a Philips arc lamp.
- Control by DMX512 protocol.
- Two truss hook brackets for versatile hanging configurations.

Specific Features

Each individual configuration has the following features:

VL2201 Spot Luminaire

- 400 watt arc source.
- Zoom optics system which provides an adjustable field angle from 13° to 35°.
- Smooth reflector which produces a peaked or flat field.

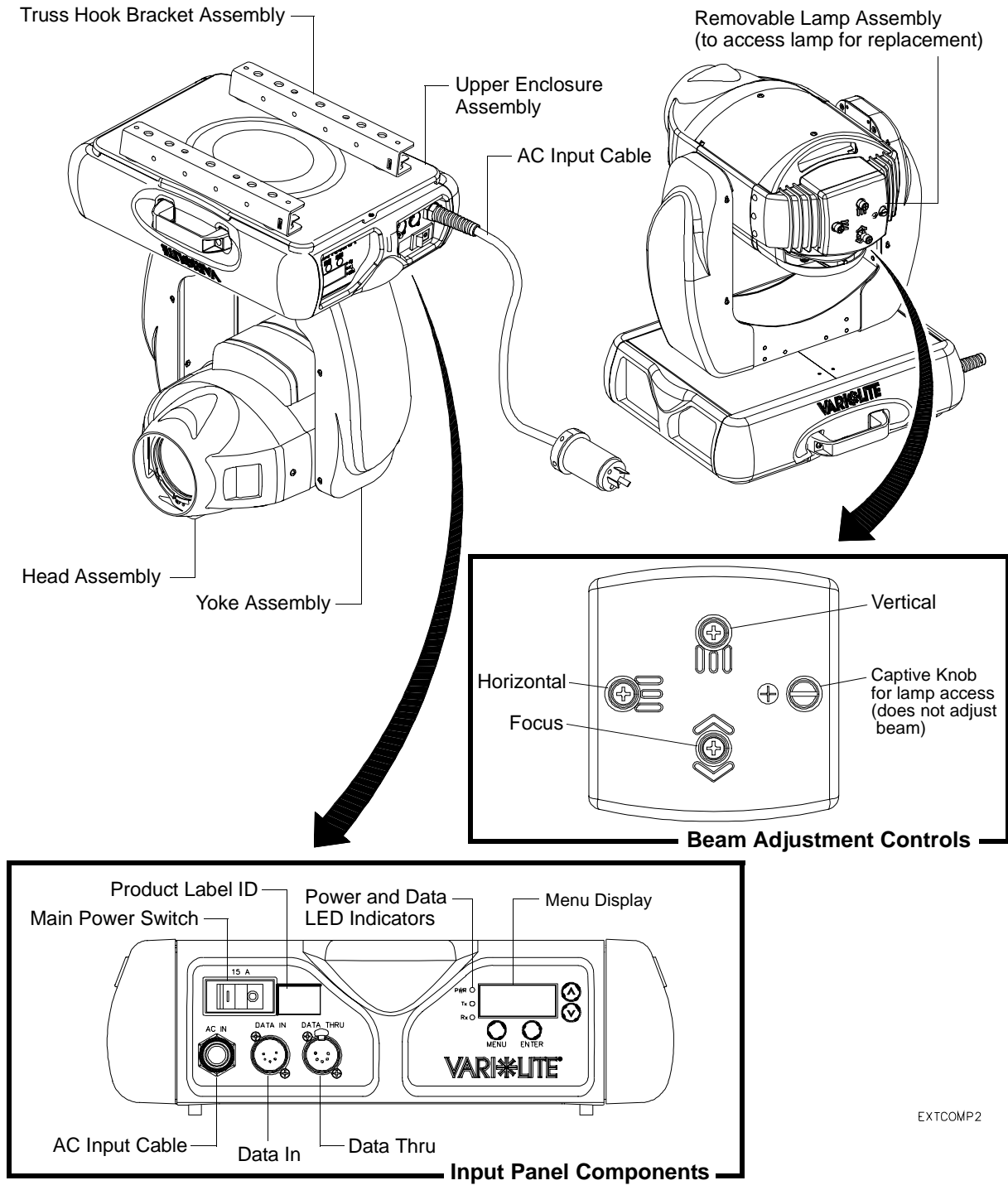
VL2202 Spot Luminaire

- 700 watt arc source.
- Zoom optics system which provides an adjustable field angle from 19° to 43°.
- Faceted reflector designed for an optimal flat field.

Major Components

External Components

The following illustration shows major luminaire components and controls.

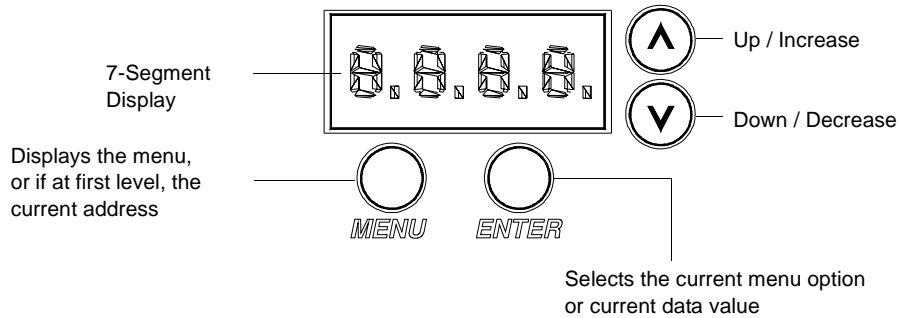


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Menu Display

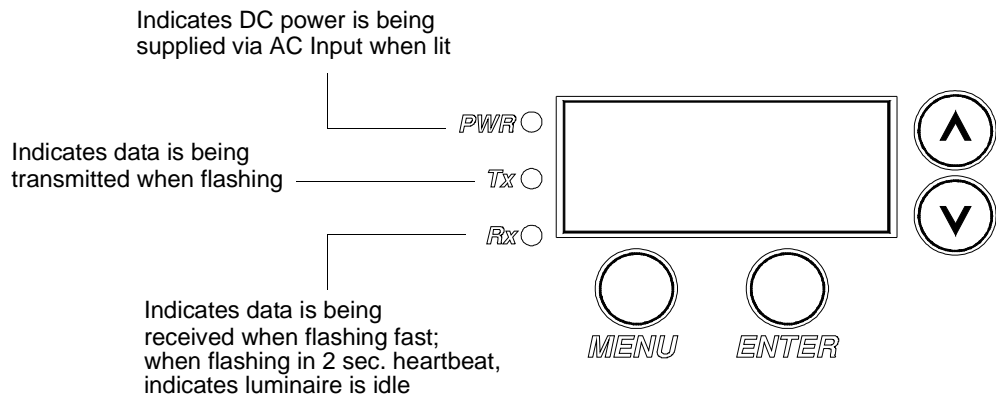
The Menu System Display is used to operate the menu system, which is a programmable set of commands used to address, operate, and test the luminaire.

The menu system is controlled by four buttons. These buttons function as follows:



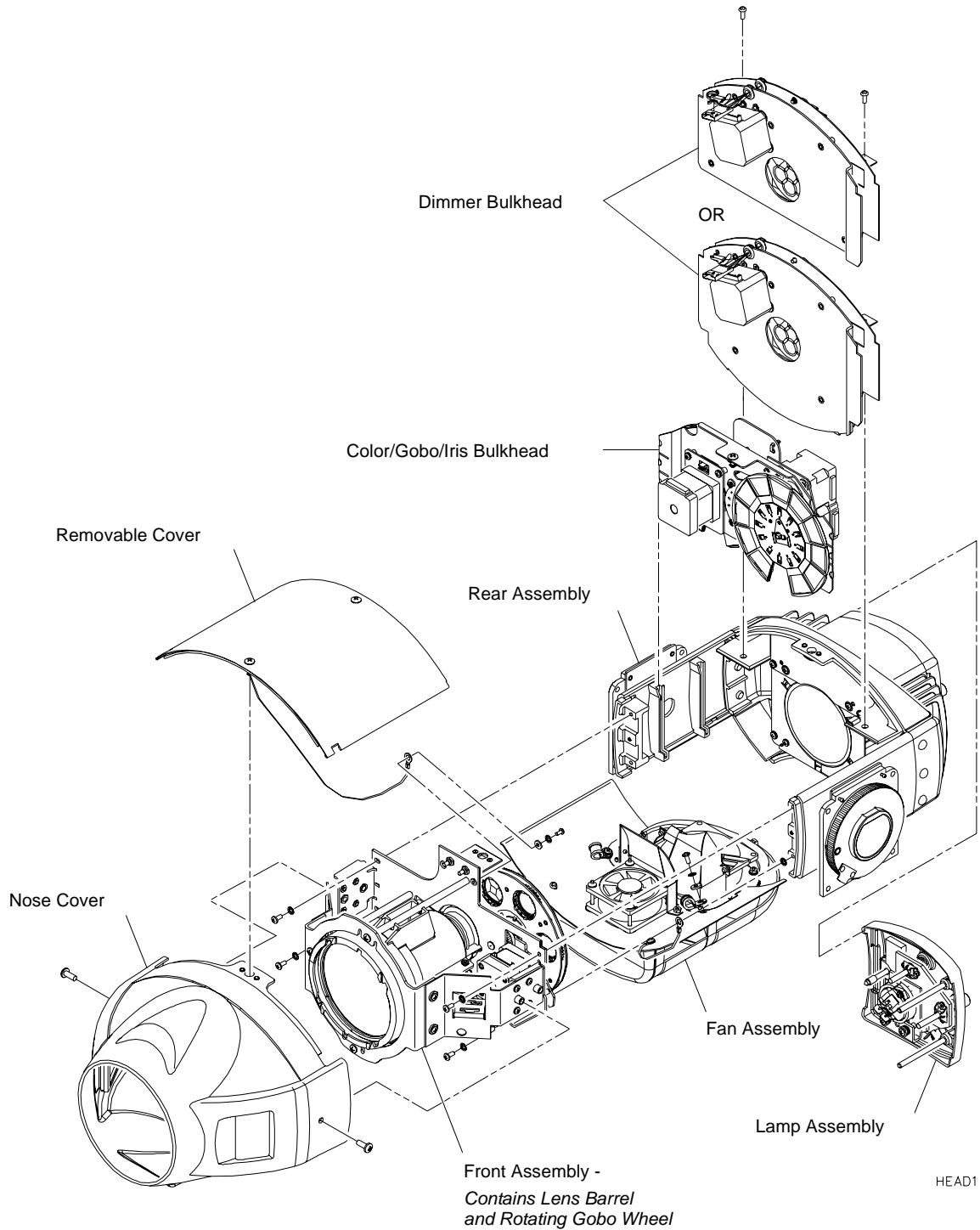
LED Indicators

The LED indicators report the status of power and data to the luminaire.



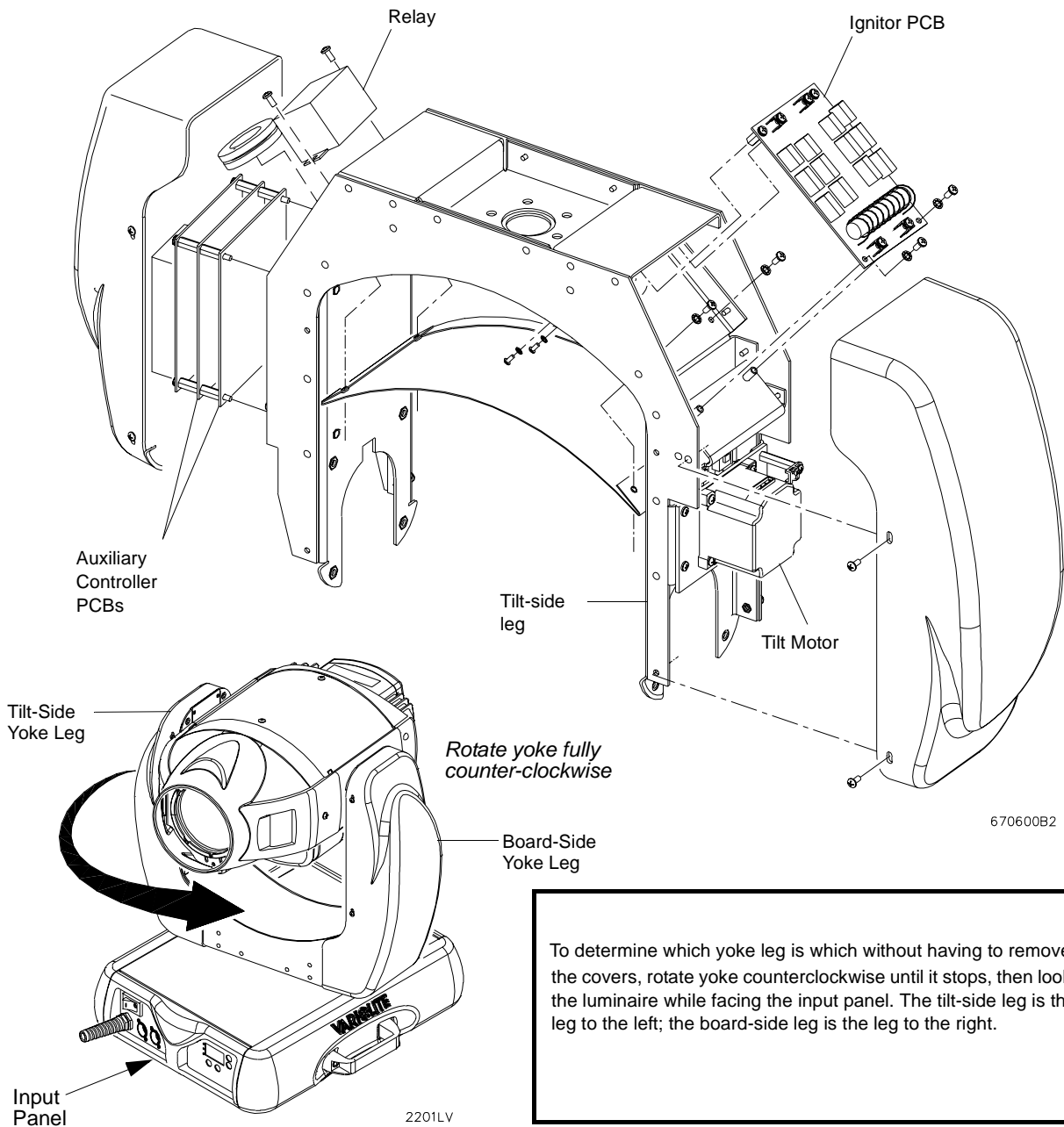
Head Components

The following illustration shows the major sub-assemblies which are located in the luminaire head assembly. (Yoke and enclosure not shown for clarity.)



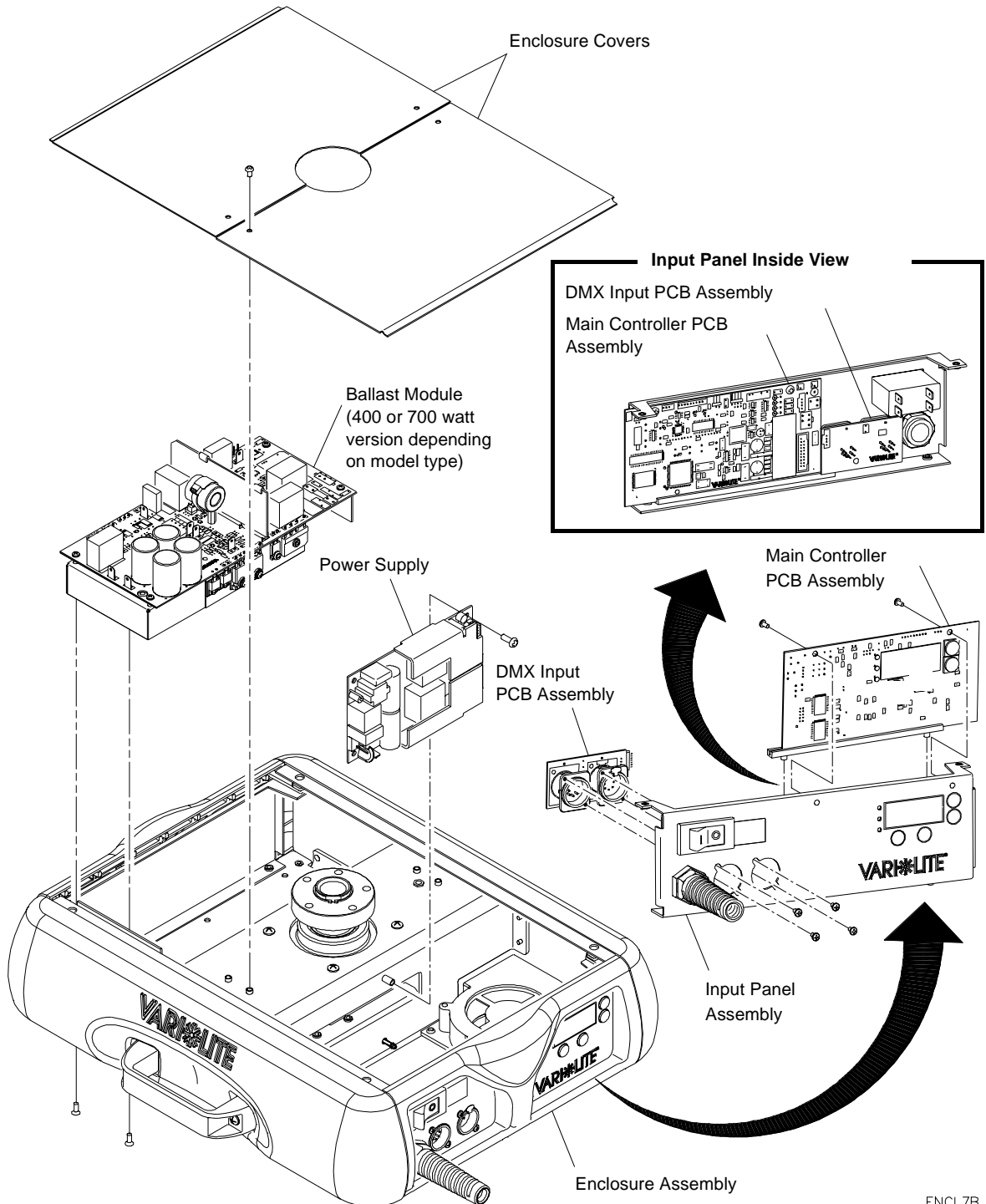
Yoke Components

The following illustration shows the major sub-assemblies which are located in the luminaire yoke assembly. (Head and enclosure not shown for clarity.)



Enclosure Components

The following illustration shows the major sub-assemblies which are located in the luminaire enclosure assembly. (Yoke and head assembly not shown for clarity.)

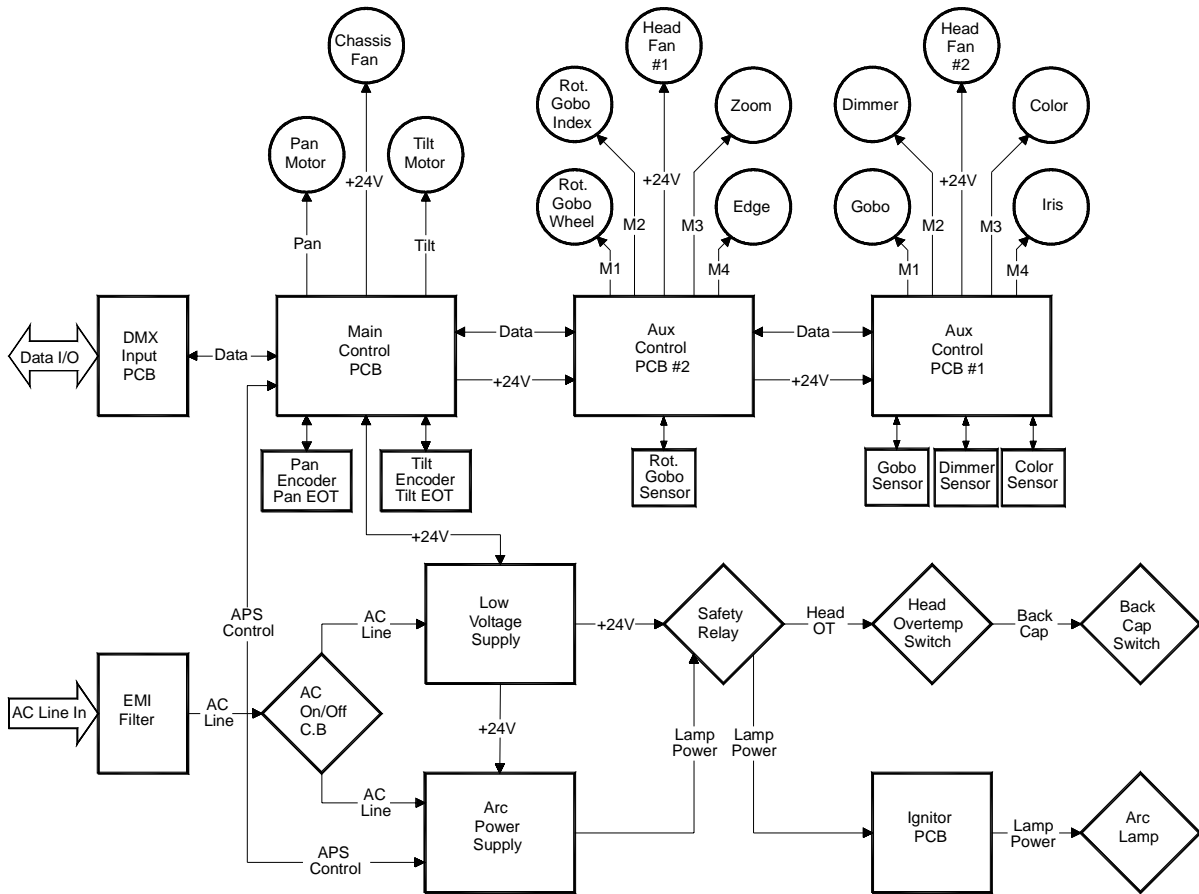


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Principles of Operation

Power and Data Flow Diagram

The following diagram shows how data and power are distributed in the luminaire.



CHAPTER 2.

Maintenance

This chapter contains test, service, and standard maintenance procedures.

- **Testing**
- **Special Considerations**
- **Maintenance Procedures**



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Testing

Testing Software

Testing software is available in all Series 2000 luminaires through the luminaire's menu system **TEST** function.

For information on specific tests and test parameters, see the VL2000 spot luminaire User's Manual (VL Part no. 02.9673.0001).

When running tests on multiple luminaires, a loopback connector is required at the first luminaire in the link and a male termination connector is required at the last luminaire.

Note: After 10 seconds of inactivity, the menu display will change to the default state showing the address.

Move Disable

The **Move** option is available in the test menu. This allows for pan/tilt functions to be disabled so that the luminaire can be placed in any position for testing without movement occurring. In order to regain full control of the luminaire, **Move** will need to be enabled after testing.

Note: When setting the **Move** option to disable, luminaires linked by a loopback connector will have pan and tilt disabled for all the luminaires that are linked.

Lamp

The **Lamp** option is also available in the test menu. This option sets the lamp intensity to 100% and will adjust the diffusion to produce a tight beam. Pan/Tilt are disabled while using the **Lamp** option, and pan/tilt settings will be restored upon exit of the **Lamp** feature.

Note: When setting the **Lamp** option on luminaires linked by a loopback connector, pan and tilt will be disabled for all the luminaires that are linked.

To run tests:

- Step 1. Press [Menu].
- Step 2. Press [Up] / [Down] arrows until **TEST** appears. Press [Enter].
- Step 3. Use [Up] / [Down] arrows to select a parameter to test.
- Step 4. Press [Enter] to run test.
- Step 5. Press [Menu] to stop test at any time.

Special Considerations

Configuring Main Controller Board

When performing maintenance or troubleshooting procedures on Series 2000 luminaires, it may be necessary to configure the Main Controller Board (MCB) for installation. When moving an MCB from one luminaire another, different jumper configurations must be set correctly in order for the luminaire to operate.

The Main Controller Board (MCB) contains two blue jumpers.



CAUTION: Always use anti-static precautions when working with PCBs.

Programming Jumper - J1 (For Vari-Lite engineering use.)

The jumper at J1 is necessary and must be in the correct position in order for the luminaire to operate. Do not change the configuration of jumper J1 (**Figure 2-1**).

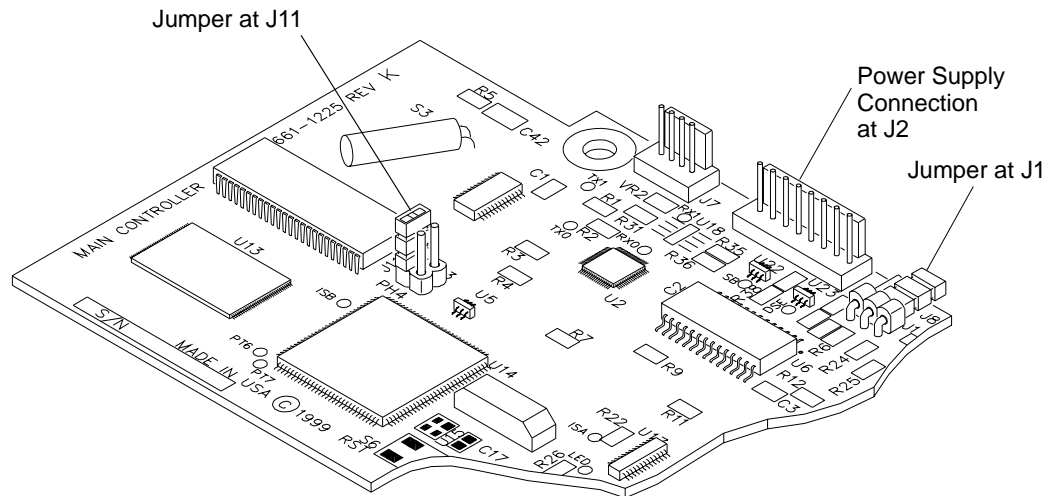


Figure 2-1: Jumper Locations on MCB

Luminaire Type Jumper - J11

The jumper at J11 configures the luminaire type between VL2000 spot, VL2000 wash and VL2416 wash. For VL2000 spot or VL2416 wash luminaires, it is fitted to non-active pins. (This inactive setting is the default or shipping configuration.) For VL2000 wash luminaires, it is fitted to the active pins.

Power Supply Connection - J2

The power supply connection at J2 sets the luminaire type according to the power supply output. (VL2416 wash luminaire - 1200W / VL2000 spot luminaire and VL2000 wash luminaire - 700W). If the power selection setting and the luminaire type setting jumper (J11) do not correspond, the luminaire will not operate properly.

Jumper Configuration

To configure jumper:

Determine which type luminaire the MCB is to be installed in, and configure jumper according to **Figure 2-2**.

Note: If luminaire will not calibrate or operate after MCB replacement, check jumper setting and download new software.

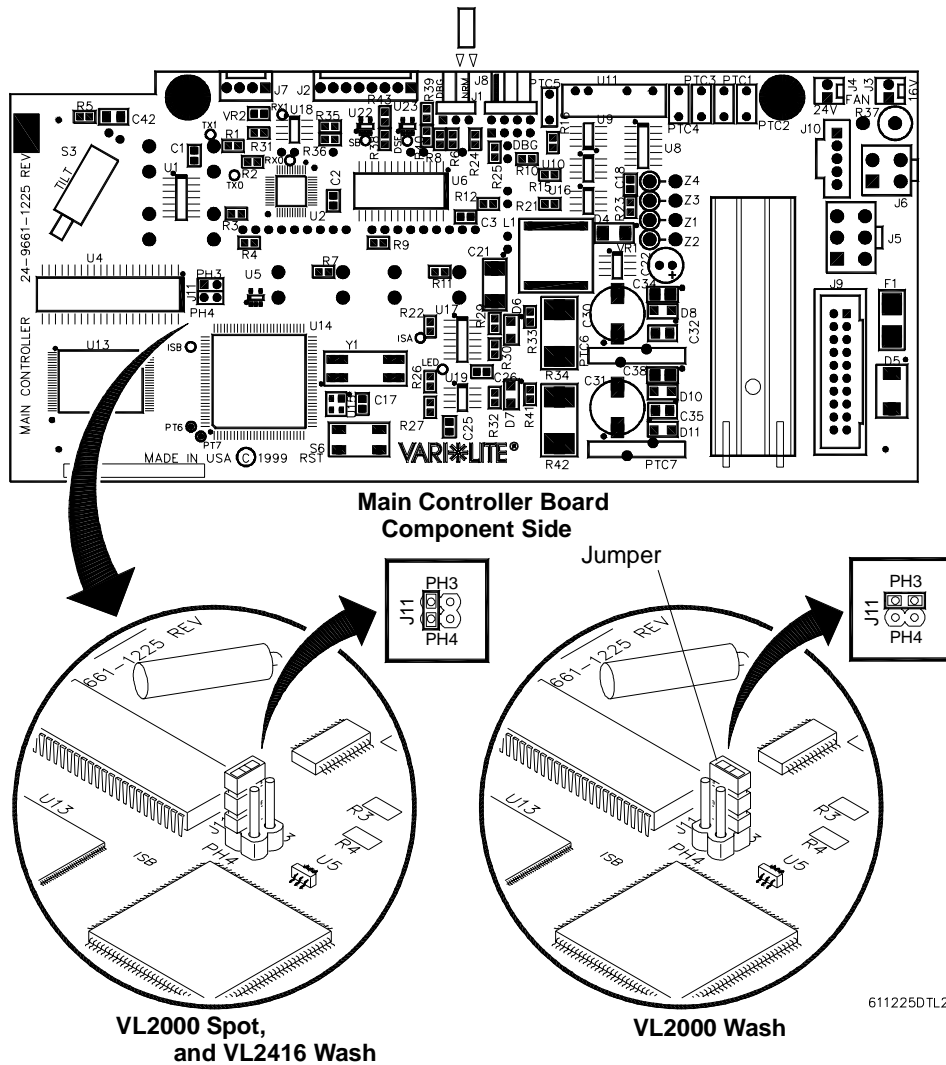


Figure 2-2: MCB Jumper Configuration.

Maintenance Procedures

Head Assembly

This section provides removal and replacement procedures for components found in the luminaire head assembly.

Lamp Replacement

Parts:

71.2528.0400	1 EA	LAMP, 400 WATT SHORT ARC - VL2201
71.2528.0700	1 EA	LAMP, 700 WATT SHORT ARC - VL2202

Tools:

Screwdriver, #2 slotted
Cotton gloves

To remove and replace lamp:

WARNING: All maintenance procedures are to be performed with power removed from the luminaire. Never remove covers or open front lens or backcap assemblies while lamp is in operation.

Step 1. Disconnect luminaire AC input cable from power source.



WARNING: Allow lamp to cool before replacing.

Step 2. At backcap, using screwdriver or fingers, turn captive knob until loose.
Figure 2-3.

Step 3. Slide backcap away from head assembly (it will remain attached by tether).

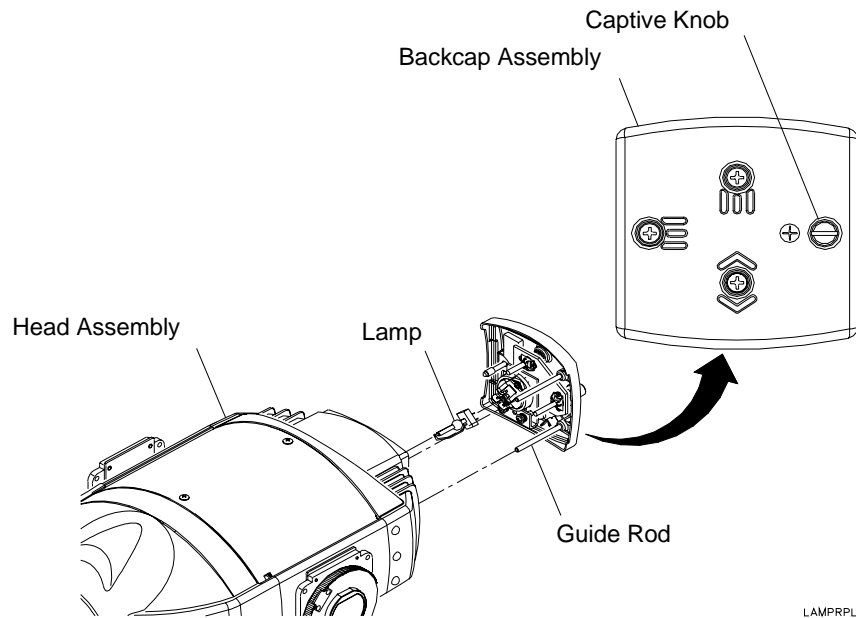


Figure 2-3: Lamp Replacement



CAUTION: Wear cotton gloves or other covering while servicing lamp. Touching lamp glass with bare fingers will leave oil and cause the lamp to explode or burn out early. If touched, use alcohol to thoroughly clean glass.

Step 4. Remove lamp by pulling straight out of socket.

Step 5. Install new lamp, pressing firmly into socket.

Step 6. Align guide rods in guide holes and slide backcap into head assembly. Re-tighten captive knob.

Step 7. Align lamp. (Refer to next procedure.)

Align Lamp for Peaked or Flat Field

The design of the VL2201 optical system is based on a peaked field. A peaked field is one where the intensity of the beam is greater at the center of the beam than at the perimeter. At this position, the center beam intensity is maximized. The beam fall off ratio can be reduced by repositioning the lamp by adjusting the focus knob. This results in a beam with a flattened appearance.

The design of the VL2202 optical system is based on a flat field. A flat field is one where there is no detectable hot spot.

After a new lamp is installed, it will be necessary to align the lamp to optimize the beam for either the peaked or flat field (depending on the luminaire model). Knobs located at the luminaire's backcap will allow adjustment.



WARNING: Backcap and adjustment knobs will be HOT during lamp operation. Wear gloves and/or use tools to prevent burns.

To align lamp:

- Step 1. Power up luminaire and allow to warm up for ten minutes.
- Step 2. Using internal menus select **Lamp** test to set beam. See “Lamp” on page 12 for more information.(If using console, set intensity to 100%, open beam size iris and focus for hard edge.)
- Step 3. Position beam on a white wall at a distance of 10' to 20'.
- Step 4. At backcap, using vertical and horizontal knobs, adjust hot spot to center of beam. **Figure 2-4.**
- Step 5. Using focus knob, do one of the following:
 - a. For peaked field (VL2201), adjust hot spot for maximum center beam intensity.
 - c. For flat field (VL2202), adjust beam for best spot.

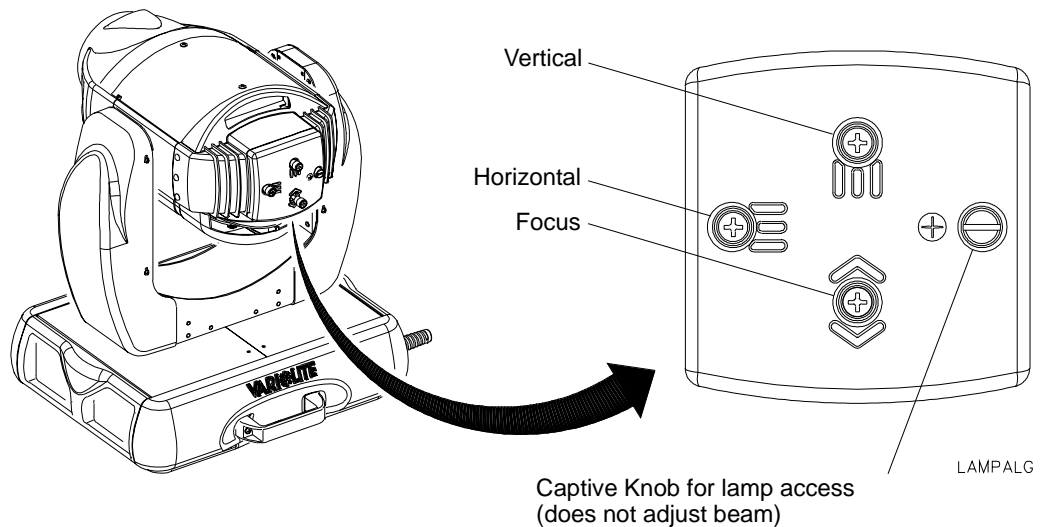


Figure 2-4: Lamp Alignment

Color/Gobo/Link Iris Bulkhead Replacement

Parts:

21.9667.0131	1 EA	ASSY, COLOR/GOBO/LINK IRIS BULKHEAD VL2201
21.9673.0131	1 EA	ASSY, COLOR/GOBO/LINK IRIS BULKHEAD VL2202

Tools:

Screwdriver, #2 Phillips

To remove and replace color/gobo/link iris bulkhead:

- Step 1. Disconnect luminaire AC input cable from power source.
- Step 2. At head cover, turn two captive screws one-quarter turn and remove cover. (It will remain attached by tether.) **Figure 2-5.**
- Step 3. At color/gobo/link iris bulkhead, disconnect wiring harness connectors from color wheel motor, iris motor, and color sensor. (Remaining motor and sensor connections will have to be disconnected in Step 5.)
- Step 4. At color/gobo/link iris bulkhead, turn captive screw one-quarter turn to release bulkhead.
- Step 5. Slide bulkhead partially out of head assembly and disconnect gobo wheel motor and gobo sensor connectors.
- Step 6. Remove bulkhead from head assembly.

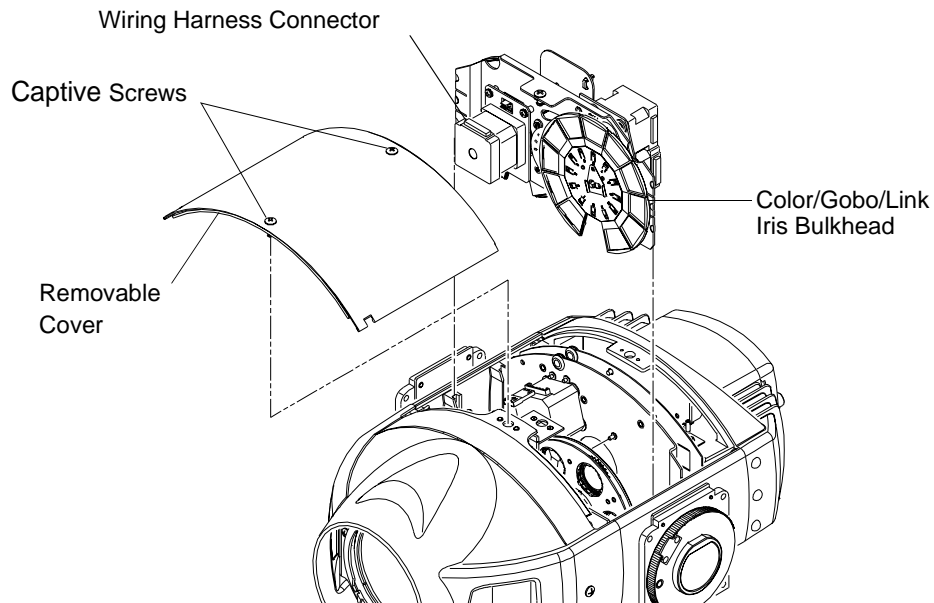


Figure 2-5: Color/Gobo/Link Iris Bulkhead Replacement

- Step 7. Install replacement assembly by performing Steps 2–6 in reverse order.

Standard Gobo/Color Filter Replacement



WARNING: Users of VARI*LITE luminaires should not install or use metal gobos. The use of metal gobos in any VARI*LITE product may damage the luminaire and could void the luminaire's warranty.

Parts:

Standard Gobo or Color Filter as required

Tools:

Screwdriver, #2 Phillips

Cotton gloves

To remove and replace a standard gobo or color filter:

Step 1. Disconnect luminaire AC input cable from power source.

Step 2. At head cover, turn two captive screws one-quarter turn and remove cover. (It will remain attached by tether.) **Figure 2-5.**

Note: In some cases it is easier to slide bulkhead partially out of head assembly to access gobos/filters. To do this, use #2 Phillips screwdriver to turn captive screw one-quarter turn and slide bulkhead upward. **Figure 2-6.**

Step 3. Rotate wheel until required gobo/filter is accessible.



CAUTION: Do not touch filters with bare fingers. Wear cotton gloves or other covering while replacing.

Step 4. Using fingers, pull gobo/filter out of wheel. **Figure 2-6.**

Step 5. Noting proper orientation of carrier slot, insert new gobo/filter into position and push fully into place.

Step 6. Re-install bulkhead (if applicable) and re-install head cover.

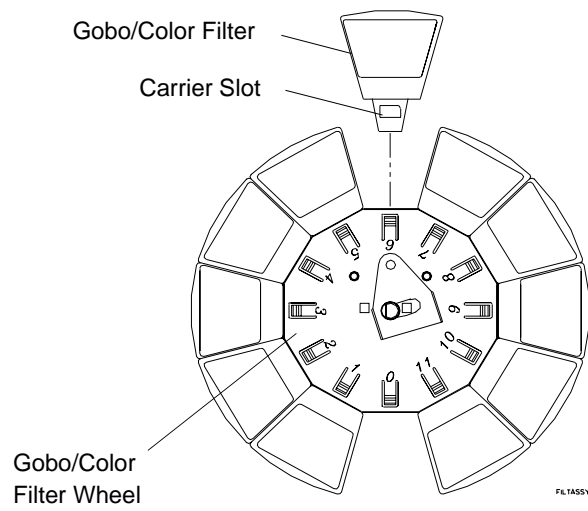


Figure 2-6: Standard Gobo/Color Filter Replacement

Dimmer Bulkhead Replacement

Parts:

21.9667.0205	1 EA	ASSY, DIMMER BULKHEAD VL2201
21.9673.0290	1 EA	ASSY, DIMMER BULKHEAD VL2202

Tools:

Screwdriver, #2 Phillips

To remove and replace dimmer bulkhead:

- Step 1. Disconnect luminaire AC input cable from power source.
- Step 2. At head cover, turn two captive screws one-quarter turn and remove cover. (It will remain attached by tether.) **Figure 2-7.**
- Step 3. At dimmer bulkhead, remove two 6-32×3/8" PPZ screws.
- Step 4. Disconnect motor wire connector from motor.
- Step 5. Disconnect sensor/thermal switch connector.
- Step 6. Slide bulkhead out of head assembly.
- Step 7. Install replacement assembly by performing Steps 2–6 in reverse order.

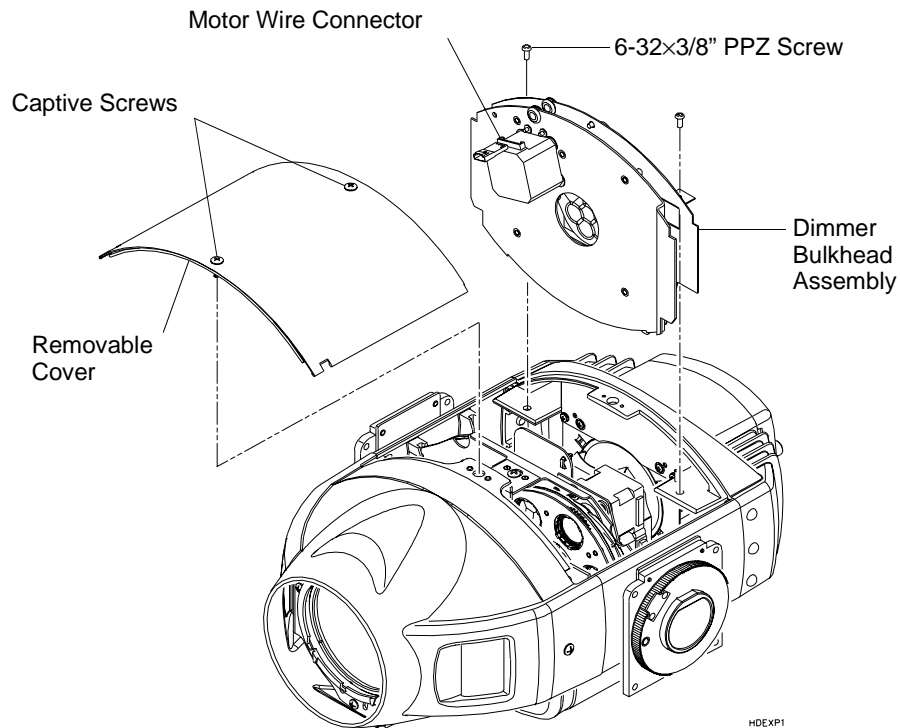


Figure 2-7: Dimmer Bulkhead Replacement

Front Assembly Removal

This procedure may be necessary to gain access to other components.

Tools:

Screwdriver, #2 Phillips, long handle

To remove and re-install front assembly:

- Step 1. Disconnect luminaire AC input cable from power source.
- Step 2. At head cover, turn two captive screws one-quarter turn and remove cover. (It will remain attached by tether.) **Figure 2-8.**
- Step 3. Remove front nose cover by removing two 10-32×1/2" PPB screws (one on each side).
- Step 4. At front assembly, disconnect wire connectors from rotating gobo index motor and rotating gobo wheel motor.

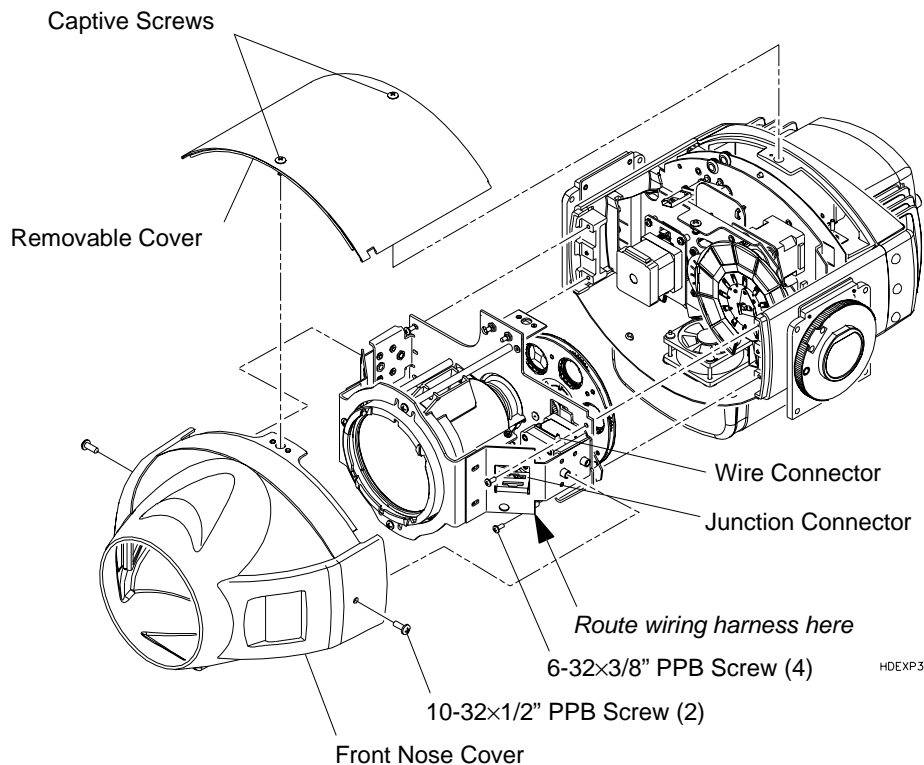


Figure 2-8: Front Assembly Removal

- Step 5. At junction connector, disconnect edge motor and zoom motor wires.
- Step 6. Face head nose upward. At front of bulkhead, using #2 Phillips long handle screwdriver, remove four 6-32 X 3/8" PPB screws, and pull front assembly partially out of head assembly.
- Step 7. At rear of bulkhead, disconnect wires from rotating gobo sensor PCB. **Figure 2-9.**

- Step 8. Re-install front assembly by performing Steps 2–6 in reverse order. While re-installing, first connect wiring harness connection to rotating gobo wheel sensor and route wires through corner between head assembly and bulkhead (ensuring no wires are pinched).

Rotating Gobo Sensor PCB Replacement

Parts:

24.9667.0321 1 EA PCB ASSY, SENSOR ROTATING GOBO

Tools:

Screwdriver, #1 Phillips
Screwdriver, #2 Phillips, long handle

To remove and replace rotating gobo sensor PCB:

- Step 1. Disconnect luminaire AC input cable from power source.
Step 2. Remove front assembly. Refer to “Front Assembly Removal” on page 22.
Step 3. At rotating gobo wheel, remove two 4-40×3/8" PFZ screws (do not remove middle screw) and remove wheel. **Figure 2-9.**

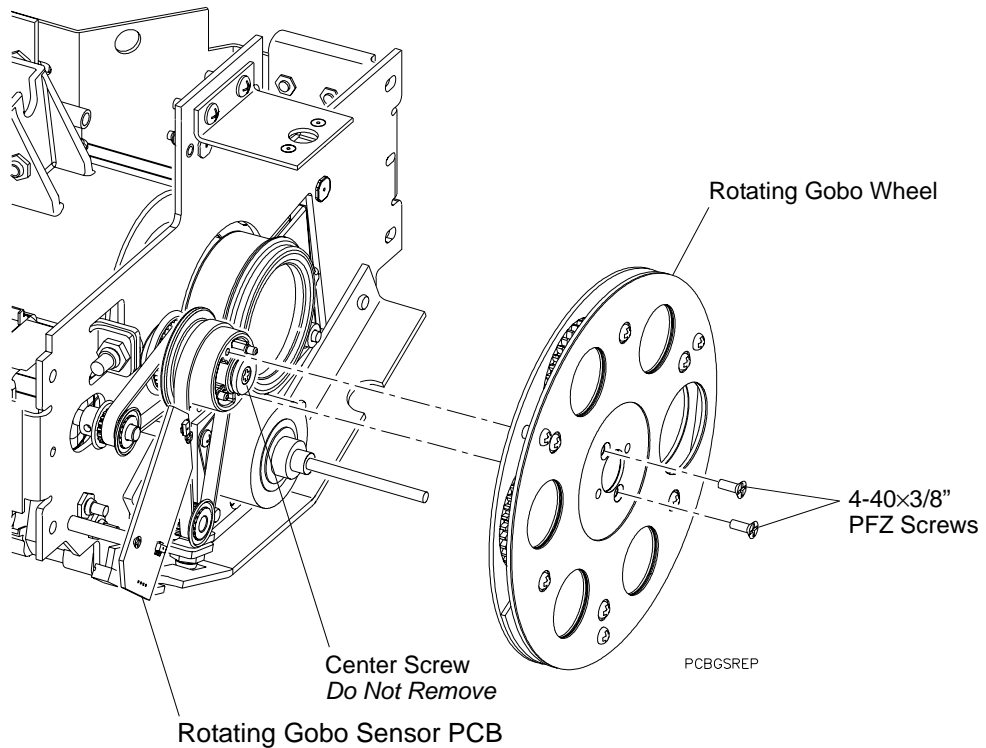


Figure 2-9: Rotating Gobo Wheel Removal



CAUTION: Always use anti-static precautions when working with PCBs.

Step 4. Remove rotating gobo sensor PCB by removing two 4-40×1/4" PFZ screws. **Figure 2-10.**

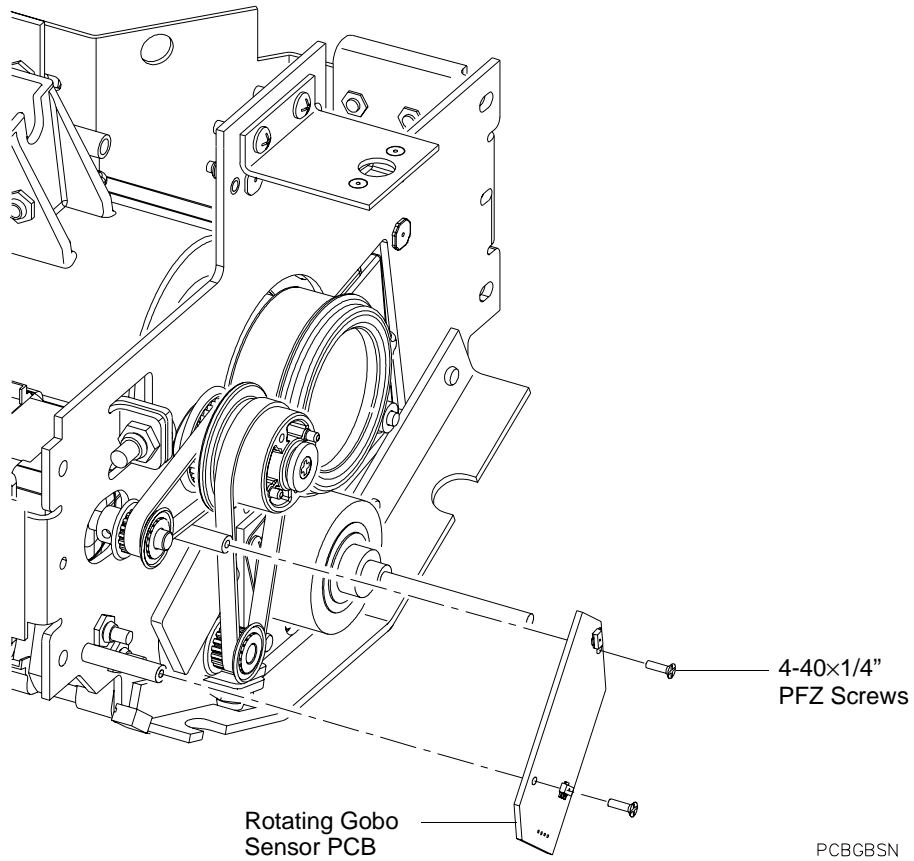


Figure 2-10: Rotating Gobo Sensor PCB Replacement

Step 5. Install replacement assembly by performing Steps 2–4 in reverse order.

Edge Motor Assembly Replacement

Parts:

21.9667.0310 1 EA ASSY, MOTOR EDGE

Tools:

Pliers, 3" Channel Lock
Screwdrivers, #1 and #2 Phillips
Wrench, open-ended, 1/4"

To remove and replace edge motor assembly:

- Step 1. Disconnect luminaire AC input cable from power source.
- Step 2. Remove front assembly. Refer to "Front Assembly Removal" on page 22.
- Step 3. Cut cable ties which secure edge motor wires to front assembly. (Edge motor is larger of two linear actuator motors.)
- Step 4. The rotating gobo wheel obscures one of the screws securing the edge motor assembly to the front assembly. At rotating gobo wheel, turn gobo wheel until the open frame is over head of obscured screw. **Figure 2-11.**

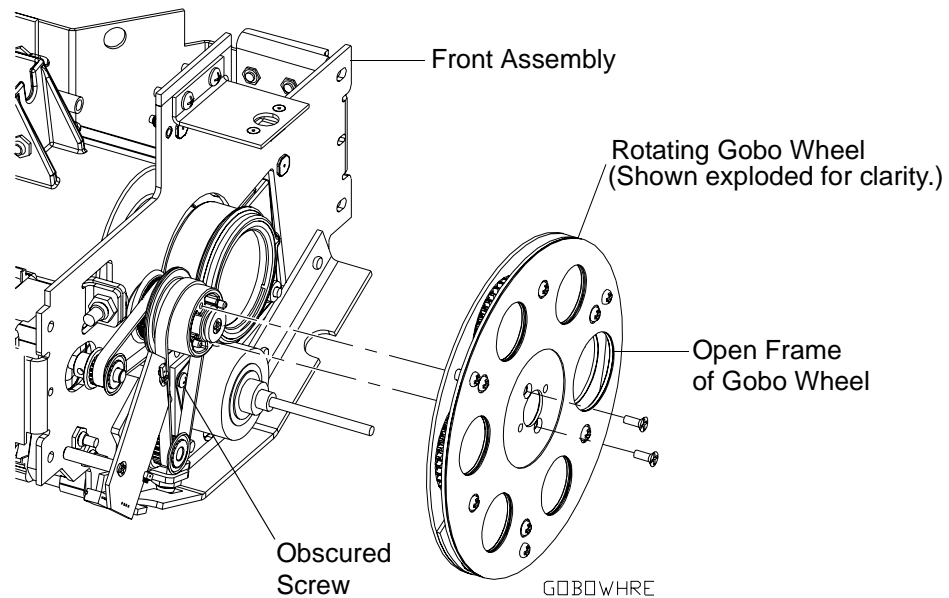


Figure 2-11: Accessing Edge Motor Assembly Attaching Hardware



CAUTION: Ensure you place pliers on standoff on edge motor shaft. Do not hold edge motor shaft with pliers, or shaft may be damaged.

Step 5. At lens barrel assembly, use pliers to hold standoff on edge motor shaft, and using 1/4" open-ended wrench, remove 4-40 SS KEPS nut from end of motor shaft. **Figure 2-12.**

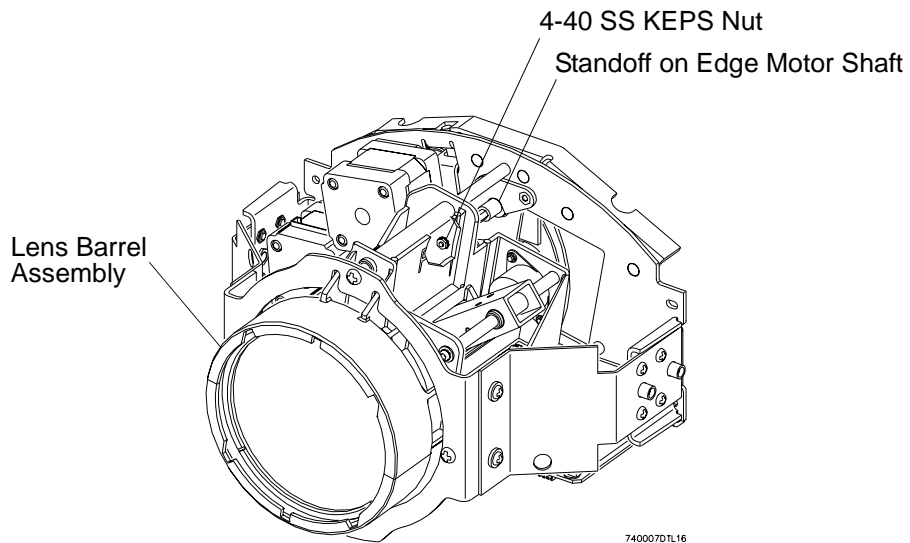


Figure 2-12: Removing Nut From Edge Motor Assembly Shaft

Step 6. At side rail, disconnect edge motor wire connector from junction connector. **Figure 2-13.**

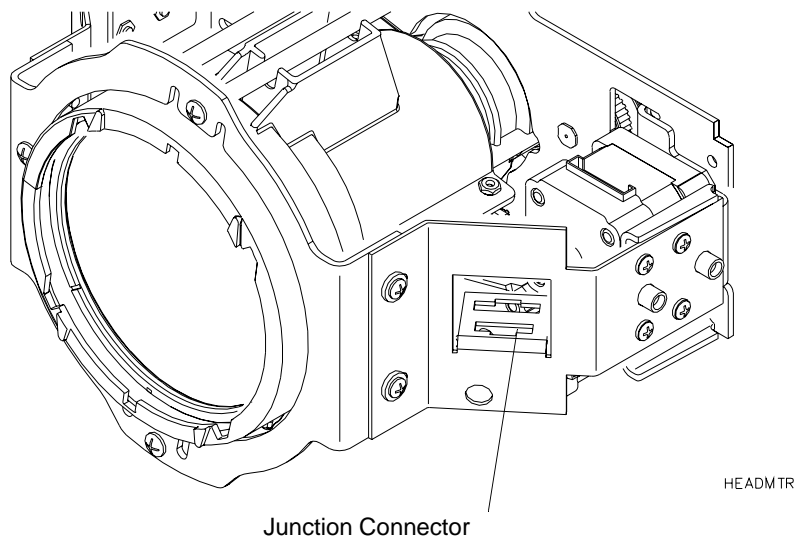


Figure 2-13: Disconnecting Edge Motor Wiring

Step 7. Remove two 4-40×3/8" PPZ screws and nuts which secure motor to bulkhead and remove motor assembly. **Figure 2-14.**

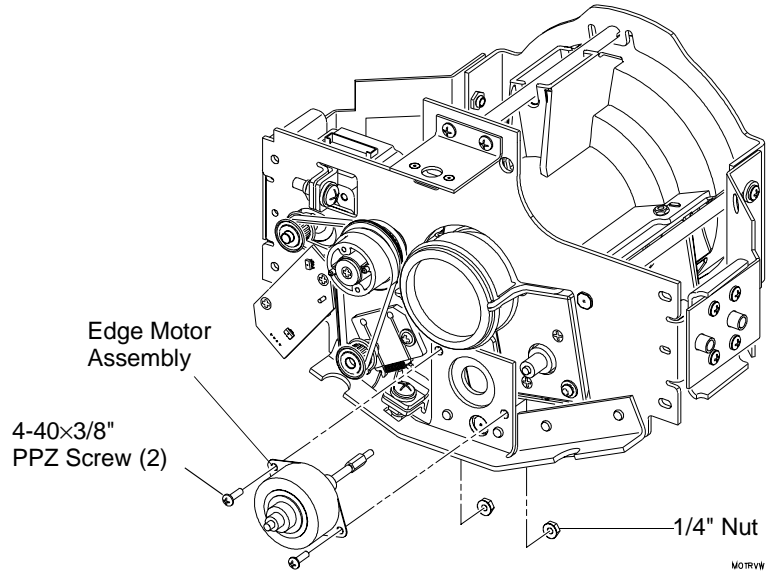


Figure 2-14: Edge Motor Assembly Replacement

Step 8. Install replacement assembly by performing Steps 2–7 in reverse order.

Lens Barrel Assembly Replacement

Parts:

21.9667.0306	1 EA	ASSY, LENS BARREL VL2201
21.9673.0306	1 EA	ASSY, LENS BARREL VL2202

Tools:

Screwdriver, #2 Phillips
Wrench, open-ended, 1/4"

To remove and replace lens barrel assembly:

- Step 1. Disconnect luminaire AC input cable from power source.
- Step 2. At head cover, turn two captive screws one-quarter turn and remove cover. (It will remain attached by tether.) **Figure 2-8.**
- Step 3. Remove front nose cover by removing two 10-32×1/2" PPB screws (one on each side). **Figure 2-8.**
- Step 4. Cut cable ties which secure zoom optics motor wires to front assembly. (Zoom optics motor is smaller of two linear actuator motors.)
- Step 5. At lens barrel assembly, use pliers to hold standoff on edge motor shaft, and using 1/4" open-ended wrench, remove 4-40 SS KEPS nut from end of motor shaft. **Figure 2-12.**
- Step 6. Disconnect zoom optics motor wire connector from junction connector. **Figure 2-15.**

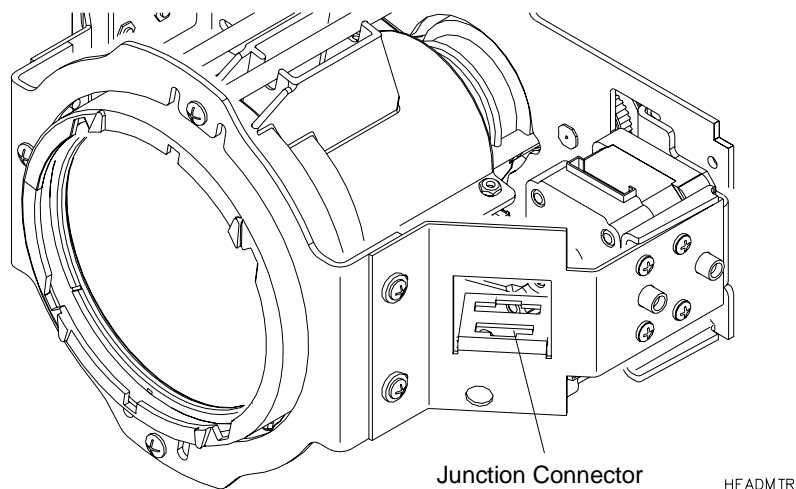


Figure 2-15: Disconnecting Zoom Optics Motor Wiring

Step 7. At front of optical support ring, remove three 8-32×3/8" PPZ screws. **Figure 2-16.**

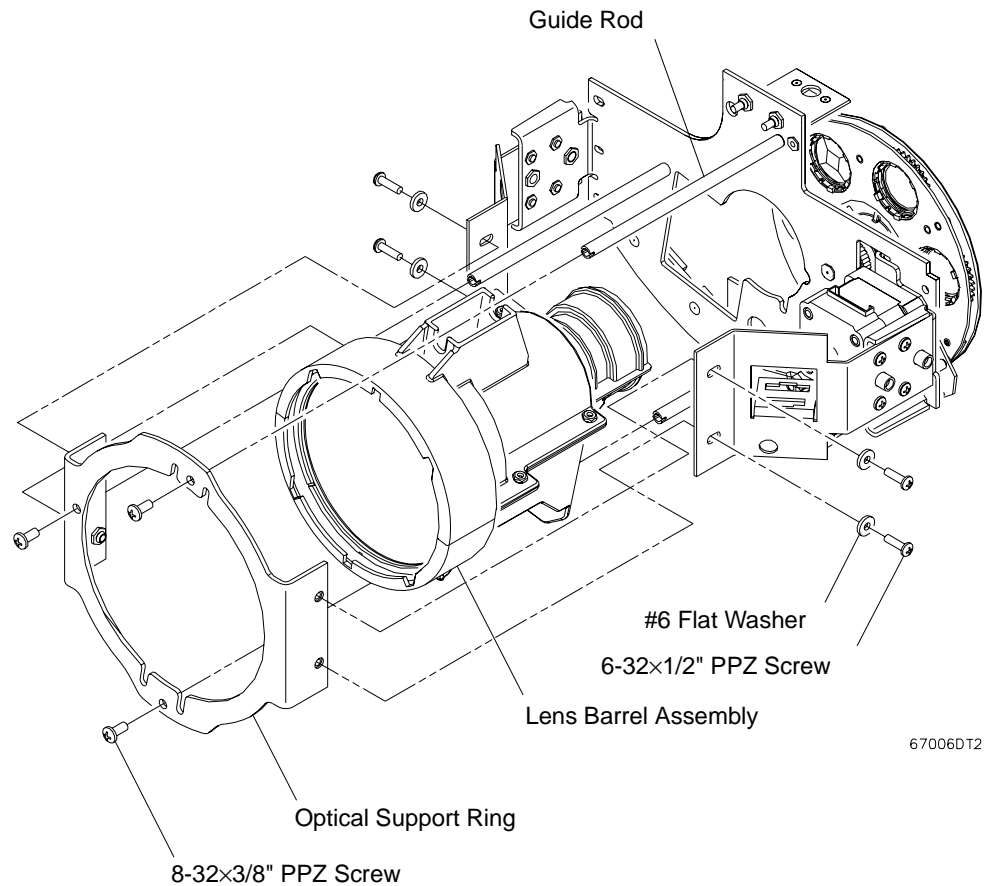


Figure 2-16: Lens Barrel Assembly Replacement

- Step 8. At each side of optical support ring, remove two 6-32×1/2" PPZ screws and #6 flat washers. Remove optical support ring.
- Step 9. Remove lens barrel assembly by pulling straight out from front assembly along guide rods.
- Step 10. Install replacement assembly by performing Steps 2–9 in reverse order.

Yoke Assembly

This section provides removal and replacement procedures for components found in the luminaire yoke assembly.

Tilt Motor Assembly Replacement

Parts:

22.9661.0665 1 EA ASSY, TILT MOTOR

Tools:

Screwdriver, #2 Phillips
Nutdriver, 1/4"

To replace tilt motor assembly:

- Step 1. Disconnect luminaire AC input cable from power source.
- Step 2. At tilt-side leg, remove yoke leg cover by removing four (two on each side) 6-32×5/16" PPB screws. **Figure 2-17**. To find tilt-side leg, refer to page 8.

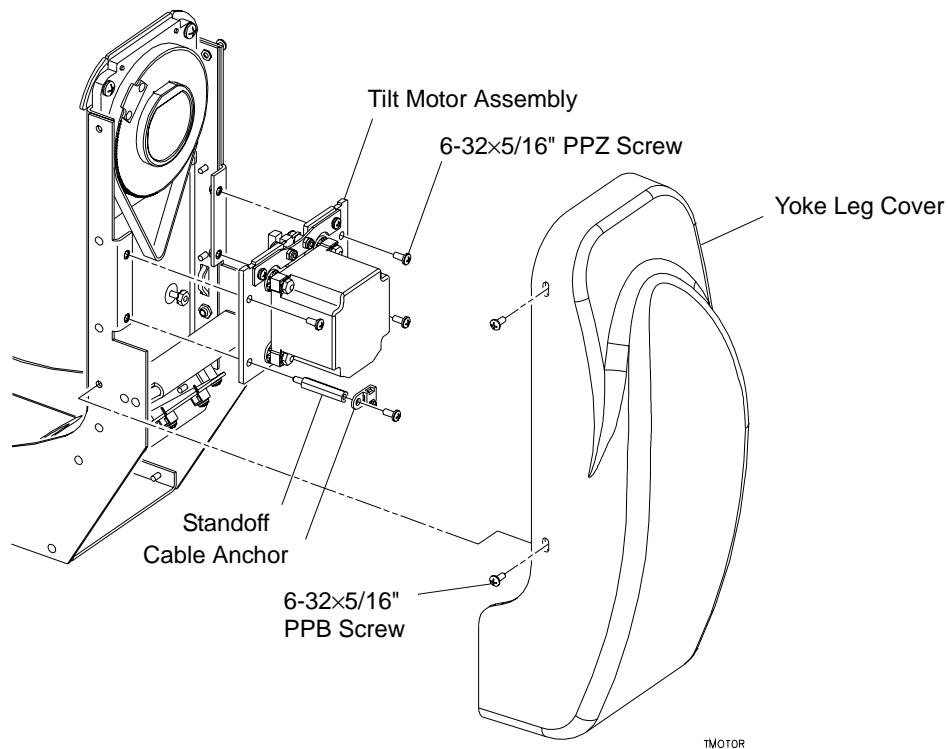


Figure 2-17: Tilt Motor Assembly Replacement

- Step 3. At pan/tilt encoder PCB (mounted behind tilt motor mounting plate), disconnect two cable connectors.
- Step 4. At tilt motor, disconnect motor wire connector.

- Step 5. At cable anchor/standoff, remove one 6-32×5/16" PPZ screw and free cable. (Cable will still be attached by a cable tie to anchor.)
- Step 6. Using 1/4" nutdriver, remove 1/4" hex standoff.
- Step 7. Remove three remaining 6-32×5/16" PPZ screws securing tilt motor assembly to yoke leg and remove assembly while freeing pulley from belt.
- Step 8. Install replacement assembly by performing Steps 2–7 in reverse order.

Auxiliary Controller PCB Replacement

Parts:

24.9661.1400 2 EA PCB ASSY, AUX CONTROLLER

Tools:

Screwdriver, Phillips #2
 Nutdriver, 1/4 inch

To replace an auxiliary controller PCBs:

- Step 1. Disconnect luminaire AC input cable from power source.
- Step 2. At board-side leg, remove yoke leg cover by removing four 6-32×5/16" PPB screws. To find board-side leg, refer to page 8.



CAUTION: Always use anti-static precautions when working with PCBs.

- Step 3. Remove counterweight assembly by removing four 6-32×5/16" PPZ screws and washers. **Figure 2-18.**

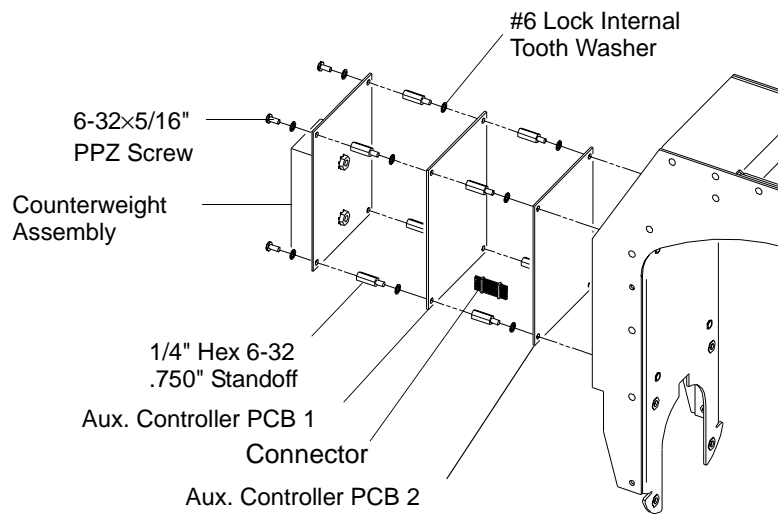


Figure 2-18: Auxiliary PCB Replacement

- Step 4. To remove auxiliary controller PCB 1, disconnect yoke cable assembly from first auxiliary controller PCB at J2.
- Step 5. Using 1/4" nutdriver or wrench, remove four 1/4" hex standoffs and #6 lock washers, and remove auxiliary controller PCB 1.

Note: A connector is installed between auxiliary controller PCBs 1 and 2. The connector may remain attached to auxiliary controller PCB 1 when it is removed.

- Step 6. If connector remains attached to auxiliary controller PCB 1 when PCB is removed, remove connector from auxiliary controller PCB 1.
- Step 7. Perform one of the following steps, as required:
- a. If auxiliary controller PCB 2 is being replaced, install connector in new auxiliary controller PCB 2 at J1.
 - b. If auxiliary controller PCB 2 is not being replaced re-install connector in auxiliary controller PCB 2 at J1.
- Step 8. To remove auxiliary controller PCB 2, disconnect yoke cable assembly from auxiliary controller PCB 2 at J2.
- Step 9. Using 1/4" nutdriver or wrench, remove next set of four 1/4" hex standoffs and #6 lock washers, and remove auxiliary controller PCB 2.
- Step 10. Perform the following steps, as required:
- a. Remove connector from auxiliary controller PCB 2 at J1.
 - b. Install connector on new auxiliary controller PCB 2 at J1.

Note: When installing auxiliary controller PCB 1, ensure pins of connector are seated correctly into connector J1 on back of PCB.

- Step 11. Install replacement assemblies by performing Steps 2–10 in reverse order.

Ignitor PCB Replacement

Parts:

24.9661.1125 1 EA PCB ASSY, IGNITOR

Tools:

Screwdriver, Phillips #2
Screwdriver, Phillip #2 stubby

To replace ignitor PCB:

- Step 1. Disconnect luminaire AC input cable from power source.
- Step 2. At each yoke leg, remove yoke leg cover by removing four 6-32×5/16" PPB screws. **Figure 2-19.**

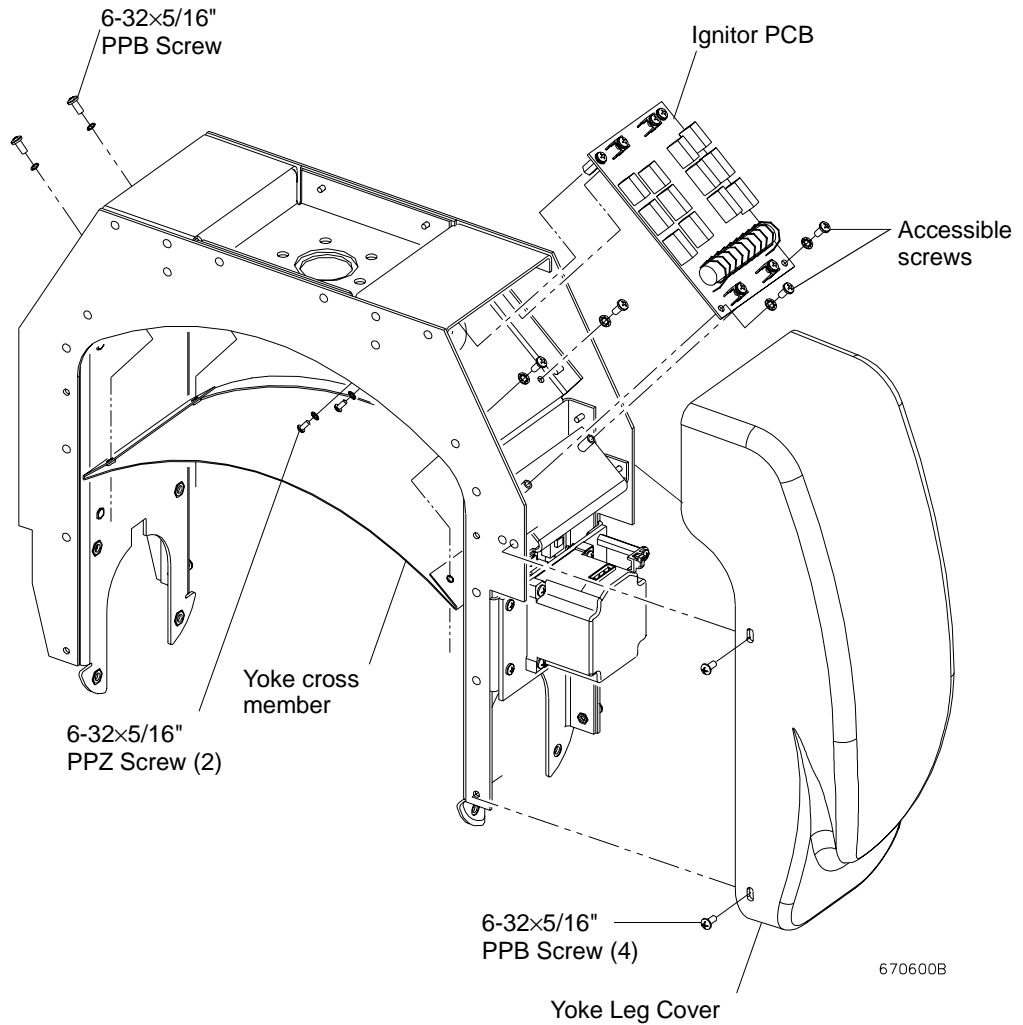


Figure 2-19: Ignitor PCB Replacement

- Step 3. At yoke cross member, remove four 6-32×3/16" LG PPZ screws and associated washers which secure cross member cover to yoke and remove cover. (These screws are accessible from inside yoke legs.)



CAUTION: Always use anti-static precautions when working with PCBs.

- Step 4. At Ignitor PCB, remove two accessible screws which secure PCB to yoke leg.
- Step 5. At yoke cross member, remove two 6-32×5/16" PPZ screws and washers which secure ignitor PCB standoffs to yoke leg.
- Step 6. Disconnect ignitor PCB wires by removing four screws which secure wire ring terminals to PCB and remove ignitor PCB.
- Step 7. Remove two 1/4" hex standoffs from ignitor PCB by removing one 6-32×5/16" PPZ screw and #6 lock washer. Install in same place on new ignitor PCB.

Figure 2-20.

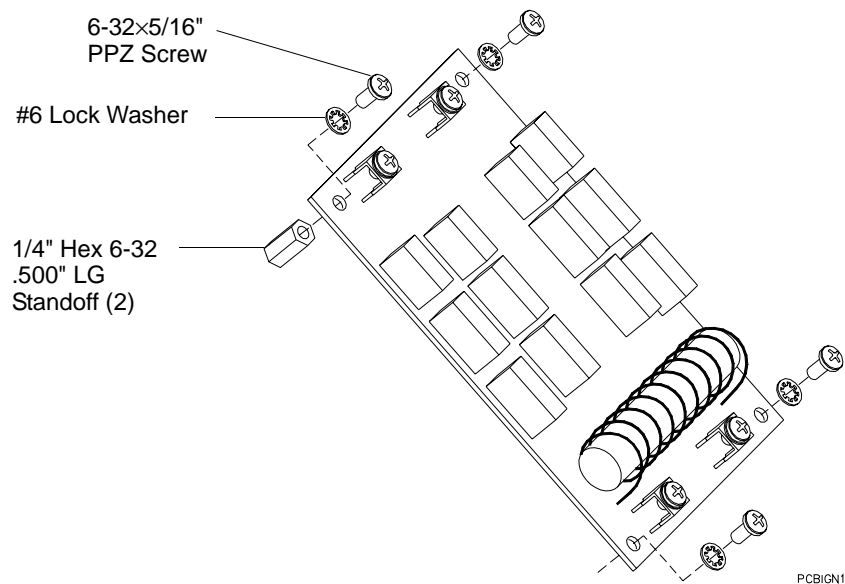


Figure 2-20: Ignitor PCB Standoff Removal

- Step 8. Install replacement assembly by performing Steps 2–7 in reverse order.

Enclosure Assembly

This section provides removal and replacement procedures for components found in the luminaire enclosure assembly.

Removing Enclosure Covers

To gain access to enclosure components, it will be necessary to remove the top and bottom covers.

Tools:

Screwdriver, #2 Phillips

Allen wrench, 3/16"

To remove and replace enclosure covers:

- Step 1. Using console or internal menus, run lens as far to the rear as possible.
- Step 2. Disconnect luminaire AC input cable from power source.
- Step 3. At each top enclosure cover, remove two 6-32×1/4" PPB screws and remove cover. **Figure 2-21.**

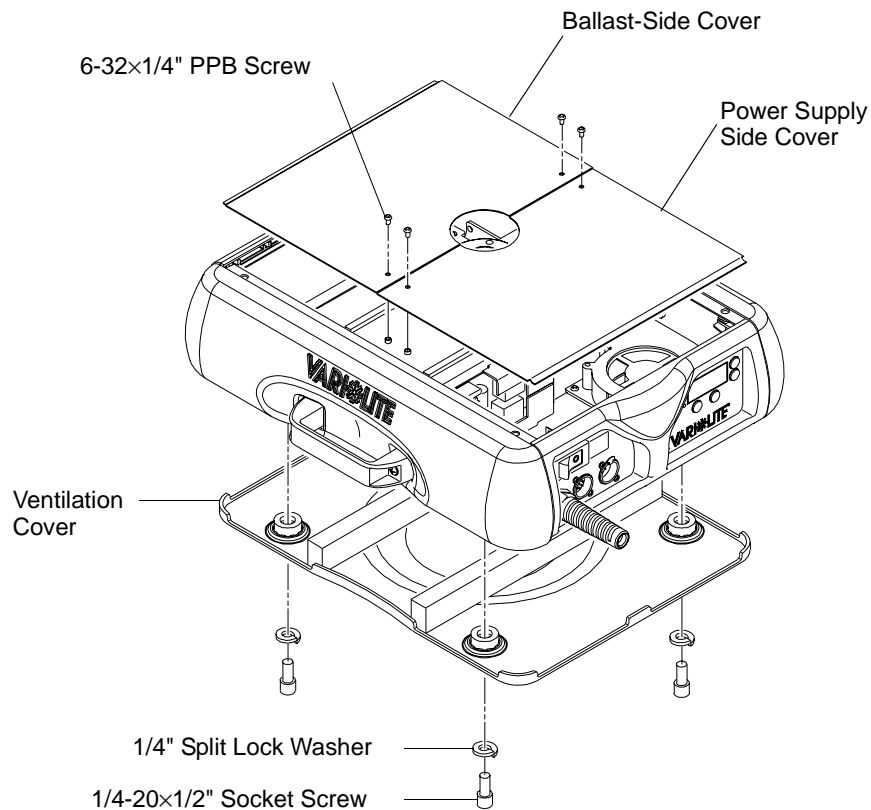
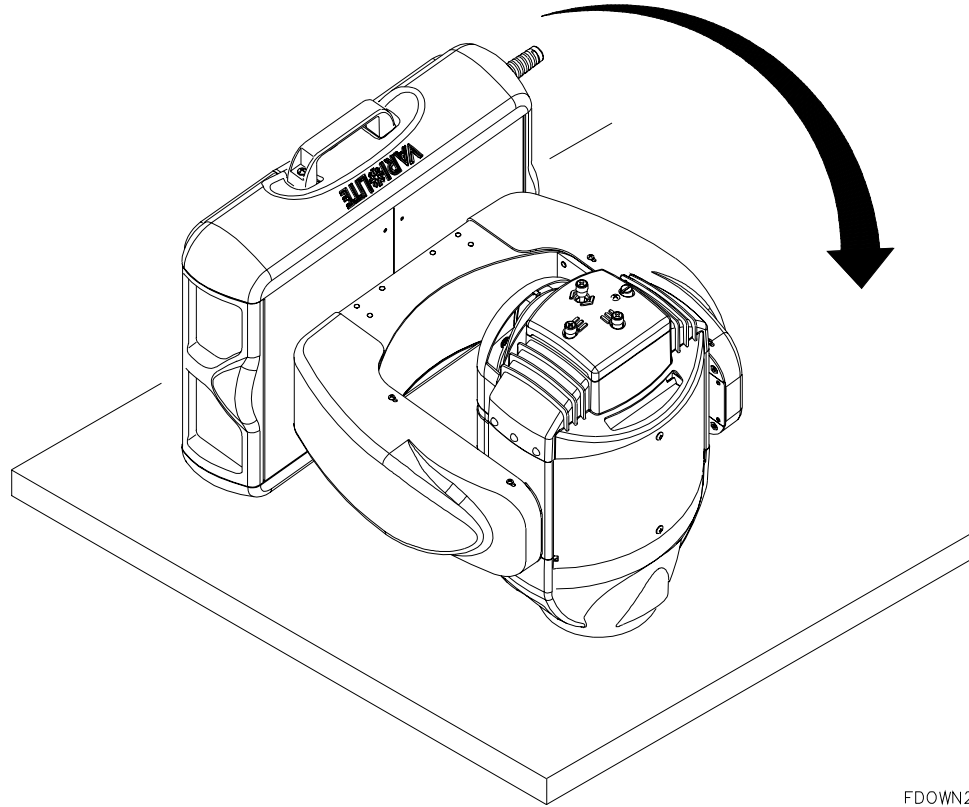


Figure 2-21: Removing Top and Bottom Enclosure Covers



CAUTION: Be careful not to damage lens during next step.

Step 4. Carefully lay luminaire on its side, ensuring that lens does not come into contact with any surface. **Figure 2-22.**



FDOWN2

Figure 2-22: Laying Luminaire on Its Side

Step 5. At bottom of enclosure, remove four 1/4-20 × 1/2" socket screws and 1/4" split lock washers and remove ventilation cover.

Step 6. Return luminaire to upright position.

Power Supply Replacement - Old Style

Note: For information on converting to a new style power supply, see Technical Bulletin S2K-014.

Parts:

12.9661.0042 1 EA POWER SUPPLY, 100W +24V OUT 4.2A

Tools:

Screwdriver, Phillips #2, stubby

To remove the power supply:

- Step 1. Disconnect luminaire AC input cable from power source.
- Step 2. At enclosure, remove power supply-side covers. Refer to “Removing Enclosure Covers” on page 35.
- Step 3. At power supply, disconnect wiring:

Location	Connector
J1	3-Pos White
J2	12-Pos Orange MTA
GND	Faston

- Step 4. At power supply, remove two 6-32x3/8" screws from top of board.
Figure 2-23.

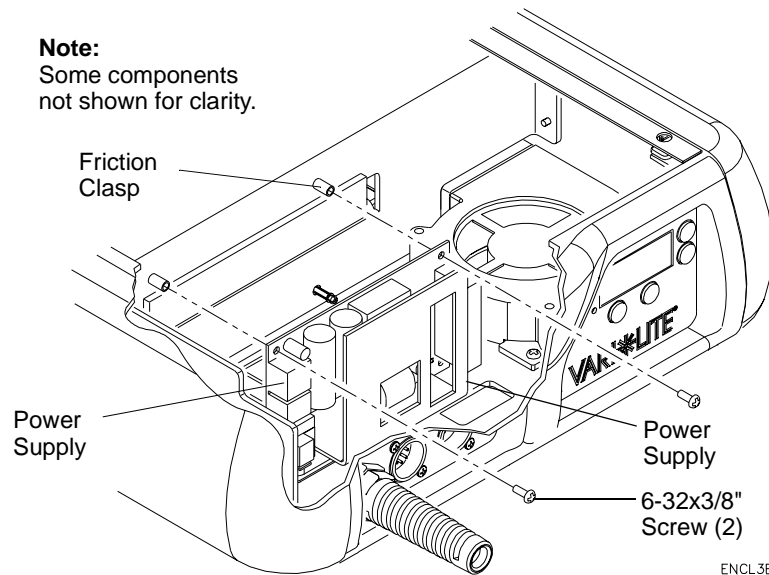


Figure 2-23: Power Supply Replacement

- Step 5. Free bottom of board from two friction clasps and remove power supply.
- Step 6. Install replacement assembly by performing Steps 2–5 in reverse order.

Power Supply Replacement - New Style

Note: For information on converting connectors for old style power supplies to accept the new style power supply, see Technical Bulletin S2K-014.

Parts:

69.3126.1103 1 EA LVS POWER SUPPLY, 130W +24V/5.4A

Tools:

Screwdriver, Phillips #2, stubby
Screwdriver, small flathead

To remove the power supply:

- Step 1. Disconnect luminaire AC input cable from power source.
- Step 2. At enclosure, remove power supply-side covers. Refer to “Removing Enclosure Covers” on page 35.
- Step 3. At power supply, disconnect wiring:

Location	Connector
J6	4-pos White MTA
Terminal Block	3 Terminal pins

- Step 4. At power supply, remove two 6-32×3/8" screws from top of board. **Figure 2-24.**

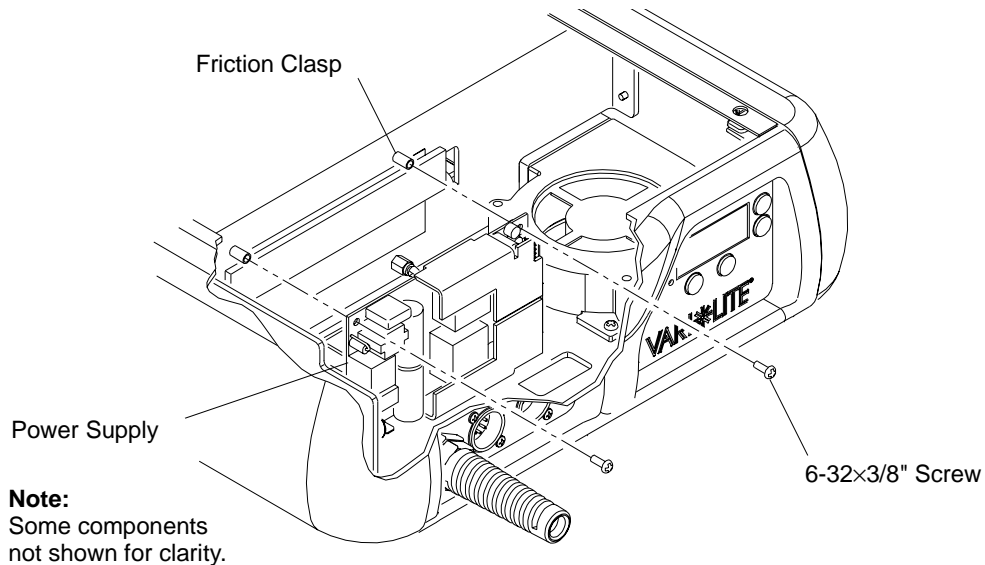


Figure 2-24: Power Supply Replacement

- Step 5. Free bottom of board from two friction clasps and remove power supply.
- Step 6. Install replacement assembly by performing Steps 2–5 in reverse order.

Ballast Module Assembly Replacement

Parts:

23.9661.1277	1 EA	ASSY, BALLAST MODULE, 400W ARC - VL2201
23.9671.1250	1 EA	ASSY, BALLAST MODULE, 700W ARC - VL2202

Tools:

Screwdriver, Phillips #2

To remove the ballast module assembly:

- Step 1. Disconnect luminaire AC input cable from power source.
- Step 2. At enclosure, remove ballast-side and ventilation covers. Refer to "Removing Enclosure Covers" on page 35.
- Step 3. Remove both handles by removing two 10-32 X 5/8" PPB screws at each.
- Step 4. At enclosure, remove eight 6-32x3/8" PPZ screws and both side covers. **Figure 2-25.**
- Step 5. At enclosure, remove APS side bracket and front cover from ballast side.

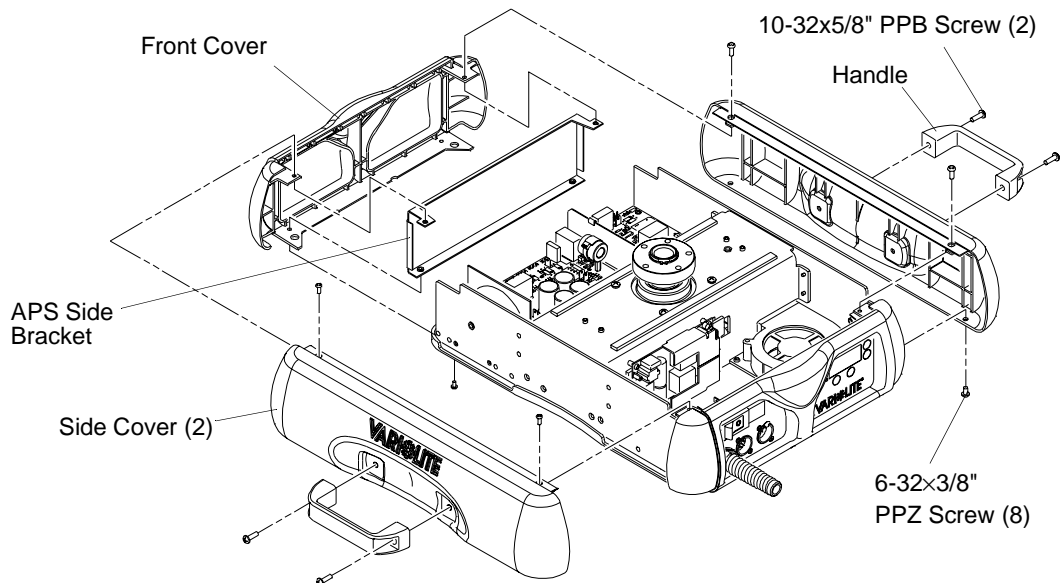


Figure 2-25: Accessing Ballast Module

Step 6. At ballast, disconnect wiring:

Location	Connector
J102	2-Pos Connector
J103	3-Pos Mate N Lok
J108	Red 1+ (Choke)
J109	Dark Blue 2- (Choke)
J110	Orange 3+ (Choke)
J111	Orange 4- (Choke)
J112	8-Pos MTA
J113	3-Pos MTA
J202	Lamp Wires (Black)
J203	Lamp Wires (White)
J204	Light Blue (Choke)
J205	Red (Choke)

Step 7. Pull wires through ferrite core. **Figure 2-26.**

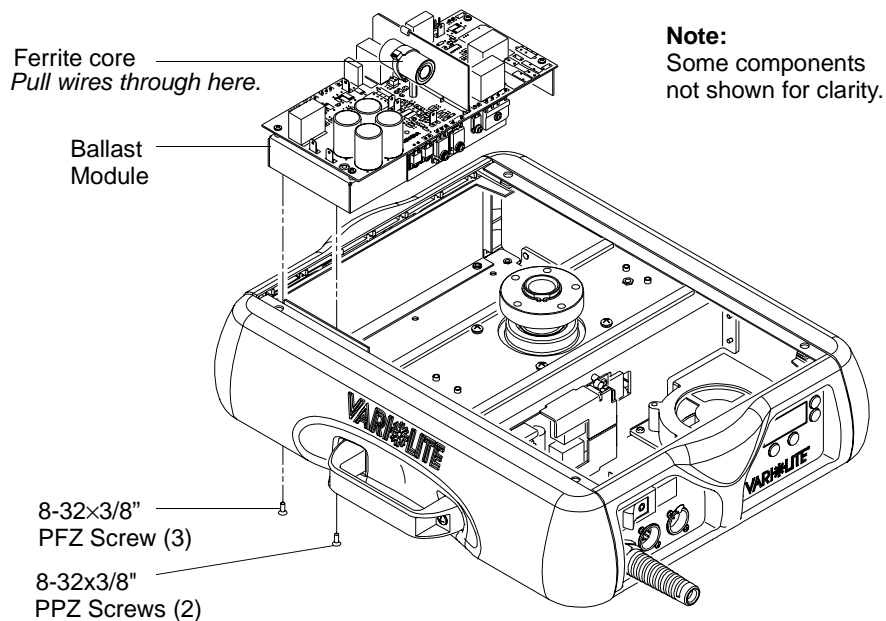


Figure 2-26: Ballast Module Assembly Replacement

Step 8. At bottom of enclosure, remove three 8-32x3/8" PFZ screws and two 8/32x3/8" PPZ screws which secure ballast module to enclosure.

Step 9. Remove ballast module.

Step 10. Install replacement assembly by performing Steps 2–9 in reverse order.

Pan Motor Assembly Removal

Parts:

22.9661.0664 1 EA ASSY, PAN MOTOR

Tools:

Screwdriver, #2 Phillips

To remove the pan motor assembly:

Step 1. Using console or internal menus, run lens as far to the rear as possible.

Step 2. Disconnect luminaire AC input cable from power source.



CAUTION: Be careful not to damage lens during next step.

Step 3. Carefully lay luminaire on its side, ensuring that lens does not come into contact with any surface. Refer to **Figure 2-22**.

Step 4. At enclosure, remove bottom ventilation cover. **Figure 2-21**. Refer to “Removing Enclosure Covers” on page 35.

Step 5. At pan motor assembly, remove four 6-32×3/8" PPZ screws. **Figure 2-27**.

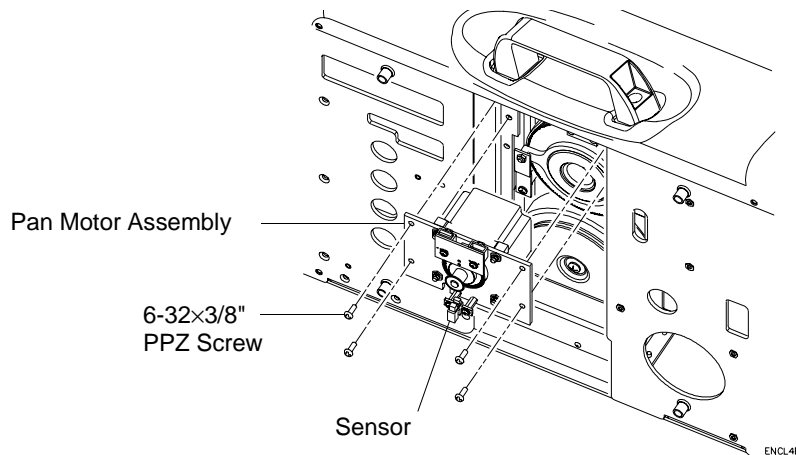


Figure 2-27: Pan Motor Assembly Replacement

Step 6. Slip belt off pan motor pulley.

Step 7. Pull pan motor assembly part way out of enclosure and disconnect sensor and motor wire connectors. Remove pan motor assembly.



CAUTION: Ensure no wire will be pinched between mounting plates before securing replacement pan motor assembly with screws.

Step 8. Install replacement assembly by performing Steps 2–7 in reverse order.

Main Controller PCB Replacement

Parts:

24.9661.1225 1 EA PCB ASSY, MAIN CONTROLLER 3-PHASE

Tools:

Screwdriver, #2 Phillips
Screwdriver, #2 Phillips, stubby

To remove and replace Main Controller PCB:

- Step 1. Disconnect luminaire AC input cable from power source.
- Step 2. At enclosure, remove power supply-side and ventilation covers. Refer to “Removing Enclosure Covers” on page 35.
- Step 3. At main controller PCB, disconnect wiring. **Figure 2-28.**

Location	Connector
J2	8-Pos Red MTA
J3	2-Pos Blue MTA (Fan)
J5	6-Pos White Connector (dual row)
J6	4-Pos White Connector (dual row)
J7	4-Pos Red MTA
J9	20-Pos Black Connector (dual row)

- Step 4. At top of PCB, remove two 6-32×3/8" screws and remove PCB.

Note:

Some components not shown for clarity.

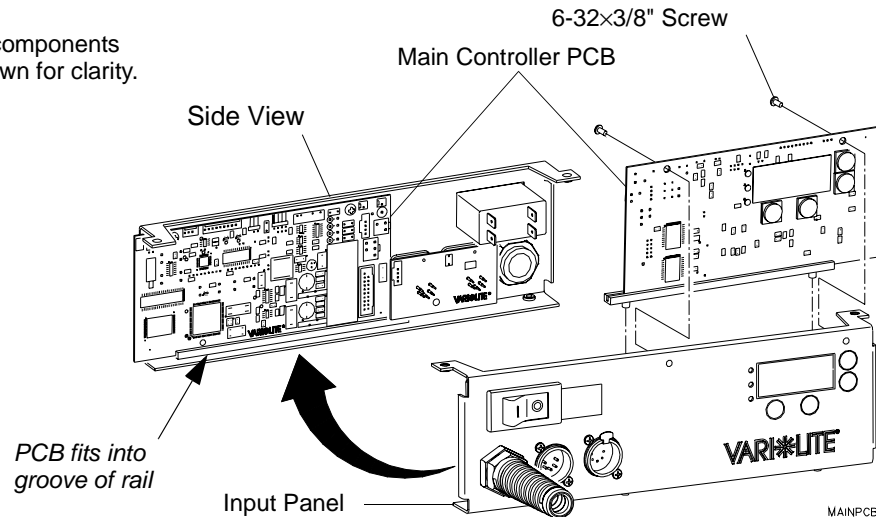


Figure 2-28: Main Controller PCB Removal

- Step 5. Install replacement assembly by performing Steps 2–4 in reverse order. (Ensure that bottom of main controller PCB is fitted into groove of rail.)

DMX Input PCB Replacement

Parts:

24.9661.1251 1 EA PCB ASSY, DMX INPUT

Tools:

Screwdriver, #2 Phillips

To remove and replace DMX Input PCB:

- Step 1. Disconnect luminaire AC input cable from power source.
- Step 2. At enclosure, remove power supply-side and ventilation covers. Refer to “Removing Enclosure Covers” on page 35.
- Step 3. At DMX Input PCB, disconnect wiring connector (J3).
- Step 4. At front connector panel, remove two M3×5mm LG PPB screws which secure each DMX input connector to panel. **Figure 2-29.**
- Step 5. Remove DMX input PCB Assembly.

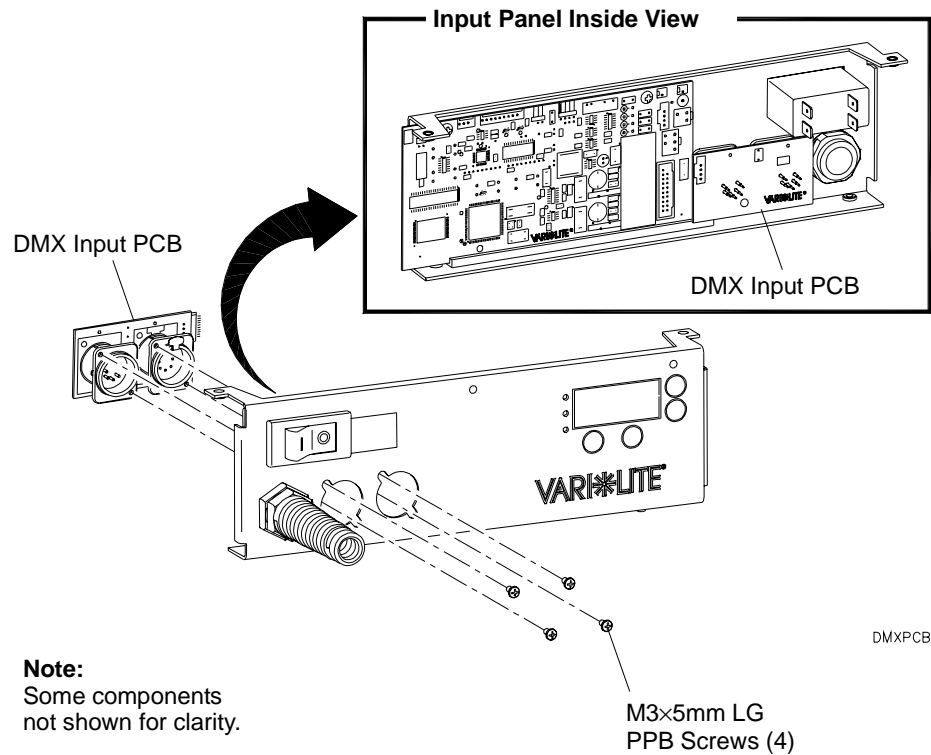


Figure 2-29: DMX Input PCB Assembly Replacement

- Step 6. Install replacement assembly by performing Steps 2–5 in reverse order.

CHAPTER 3.

Illustrated Parts Breakdown

This chapter contains illustrated parts breakdowns for assemblies in the VL2000 spot luminaire.

- **Drawing Tree**
- **Top Assembly**
- **Head**
- **Yoke**
- **Enclosure**
- **Cables**

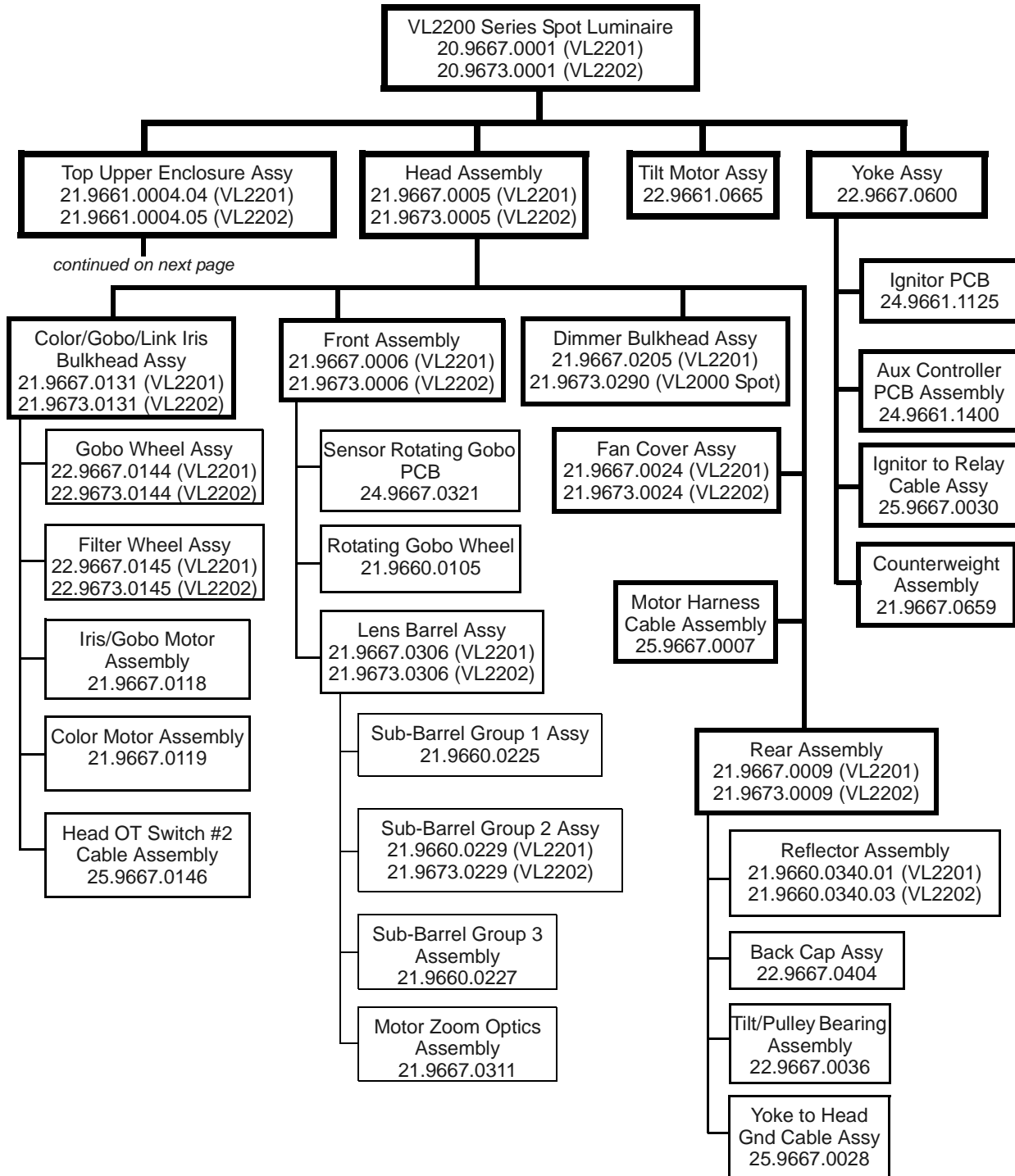
Note: The VL2000 spot luminaire has been offered in two different configurations - VL2201 spot luminaire and VL2202 spot luminaire. The VL2201 version has been discontinued and the VL2202 luminaire is now known as the VL2000 spot luminaire. However, this manual still makes reference to the VL2201 luminaire for continued service purposes.



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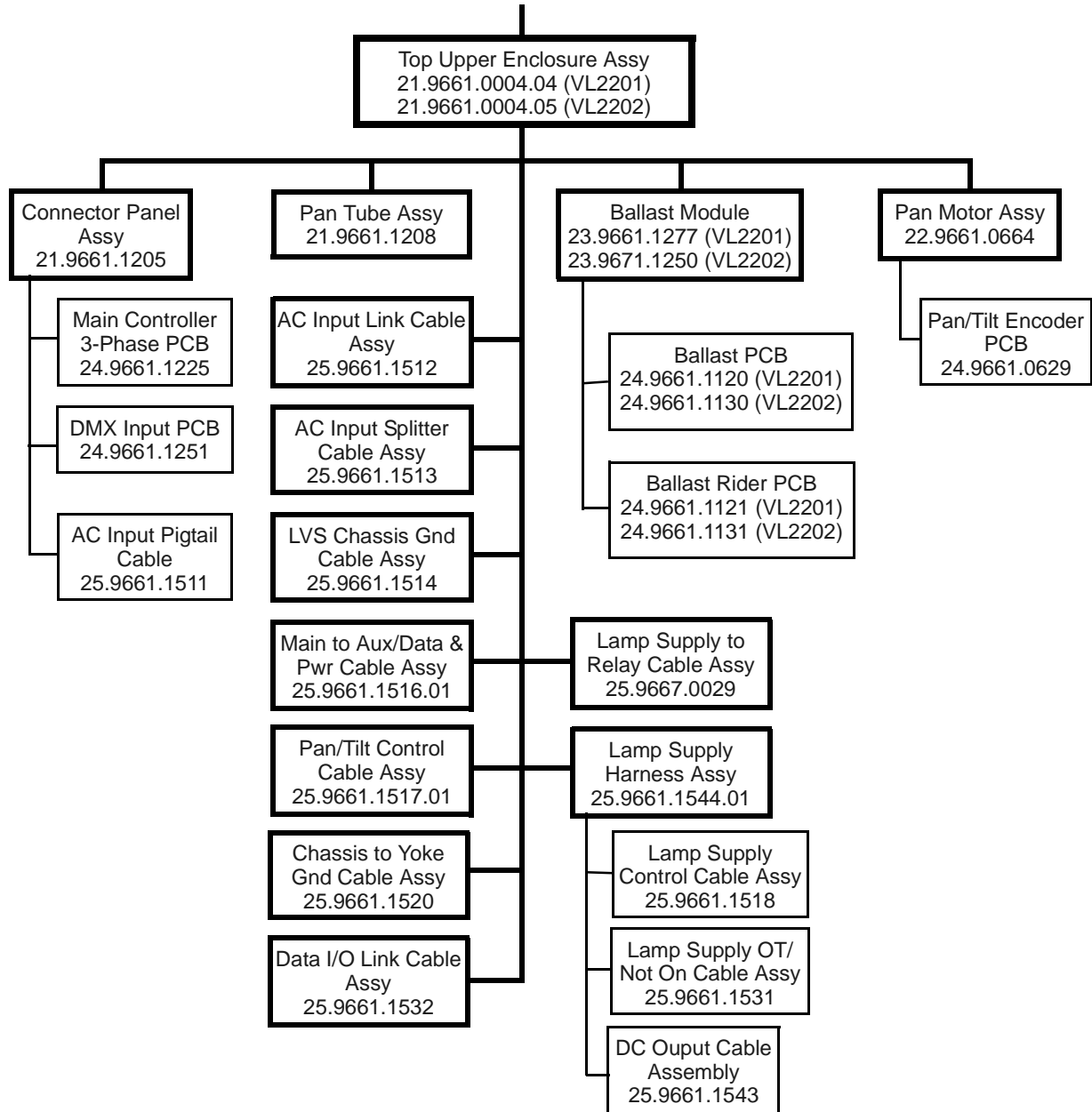
Drawing Tree

VL2000 Series Spot Luminaire



Drawing Tree (cont.)

continued from previous page



Top Assembly

Included Items Kit

28.9667.0001 (VL2201) Rev H

28.9673.0001 (VL2000 Spot) Rev H

Refer to Figure 3-1.

No.	Item	Qty.	UM.	Description
1	02.8001.0001	1	EA	PRODUCT SUPPORT SHEET, VARI-LITE CUSTOMER SERVICE
2	02.8052.0001	1	EA	CARD, LIMITED WARRANTY 01-16-01
3	02.8406.0001	1	EA	TAG, LAMP NOTICE (added 09-03-03)
4	02.8700.0001	1	EA	CARD, PRODUCT REGISTRATION - VL2000 (09-09-02)
5	02.9673.0002	1	EA	UNPACK/QUICK START SHEET, VL2000
6	07.9667.0035	1	EA	SHIPPING BOX, CARDBOARD - VL2000
7	08.2000.0001	1	EA	CD-ROM, VL2000 LUMINAIRE
8	22.9661.1636	2	EA	FAB ASSY, BRACKET TRUSS HOOK
9	71.2528.0400	1	EA	400 WATT ARC-PHILIPS MSR575HR LAMP (VL2201 ONLY)
	71.2528.0700	1	EA	700 WATT SHORT ARC-PHILIPS MSR575HR LAMP (VL2000 ONLY)

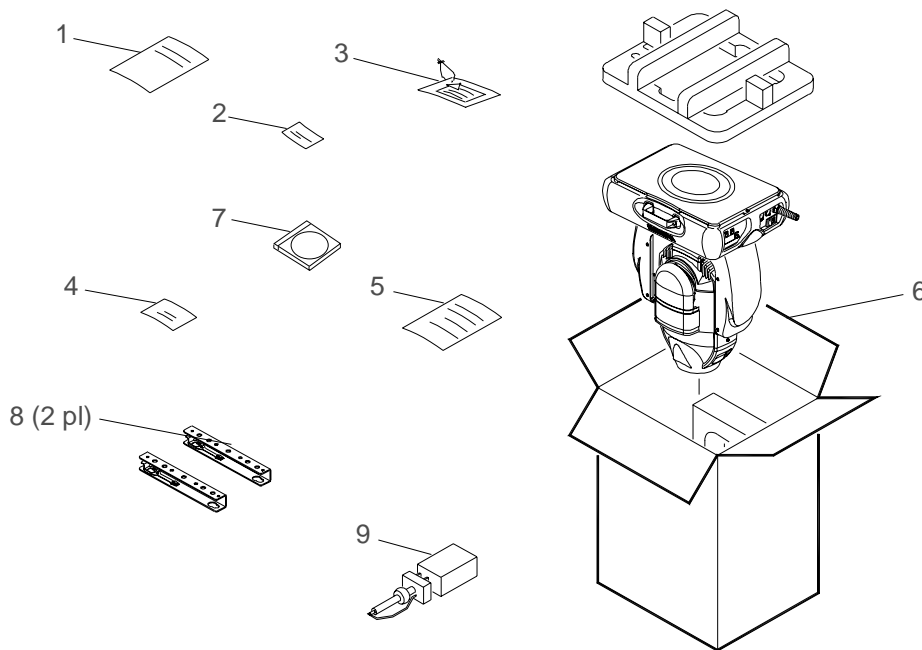


Figure 3-1: Included Items Kit

Top Assembly

VL2000 Series Spot Luminaires

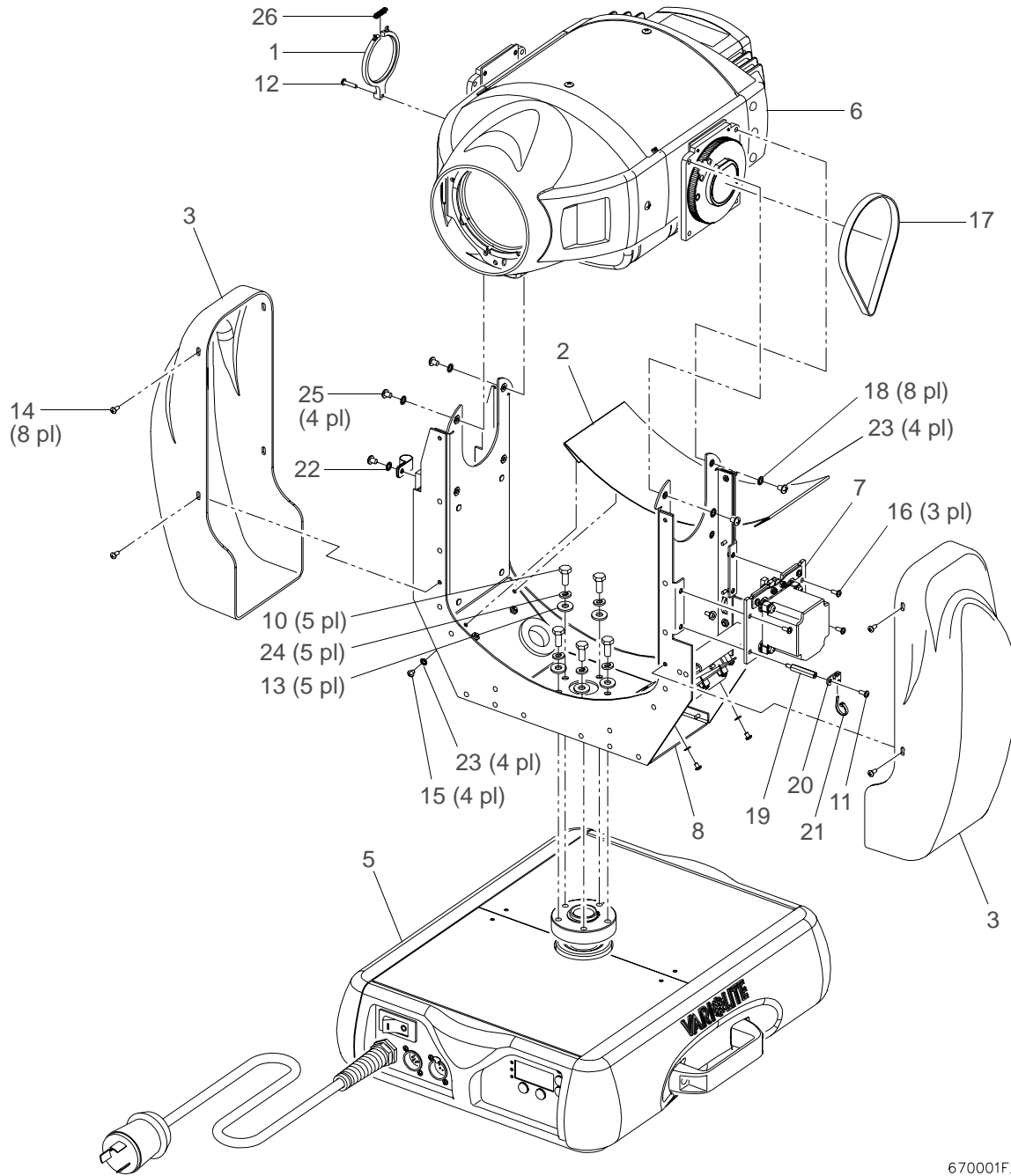
20.9667.0001 (VL2201) Rev F

20.9673.0001 (VL2000 Spot) Rev A

Refer to Figure 3-2.

No.	Item	Qty.	UM.	Description
1	10.9628.0211	1	EA	STABILIZER, PAN/TILT
2	10.9667.0617	1	EA	HEAT SHIELD, YOKE CROSSMEMBER
3	10.9667.0632	2	EA	COVER, YOKE THERMOFORM
4	16.9667.0004	1	EA	LABEL LOCATION, VL2201 LUMINAIRE (VL2201 ONLY)
	16.9673.0004	1	EA	LABEL LOCATION, VL2202 LUMINAIRE (VL2000 ONLY)
5	21.9661.0004.04	1	EA	ASSY, TOP UPPER ENCLOSURE 400W (VL2201 ONLY)
	21.9661.0004.05	1	EA	ASSY, TOP UPPER ENCLOSURE 700W (VL2000 ONLY)
6	21.9667.0005	1	EA	ASSY, HEAD (VL2201 ONLY)
	21.9673.0005	1	EA	ASSY, HEAD (VL2000 ONLY)
7	22.9661.0665	1	EA	ASSY, TILT MOTOR
8	22.9667.0600	1	EA	ASSY, YOKE
9	53.2002.0001	1	EA	NUT, 6-32 KEP ZINC PLATED
10	53.6505.0020	5	EA	BOLT, 1/4-28X 3/4" NXHD GRD8 ZINC PLTD FULL THREAD
11	53.6525.0001	1	EA	SCREW, 6-32 X 5/16" PPZ
12	53.6526.0001	1	EA	SCREW, 6-32 X 5/8" PPZ
13	53.6539.0008	5	EA	WASHER, 1/4" FLAT SS
14	53.6543.0001	8	EA	SCREW, 6-32 X 3/8" PPB
15	53.6608.0003	4	EA	SCREW, 6-32 X 3/16" LG PPZ
16	53.6610.0005	3	EA	SCREW, 6-32 X 7/16" PPB
17	54.2039.0001	1	EA	BELT, GT TIMING 2MM PITCH 182GRV 9MM WD NYL CVRD FBRGLS NEOP
18	55.2114.0001	8	EA	WASHER, #10 LOCK INT TOOTH
19	55.2132.0006	1	EA	STANDOFF, 1/4" HEX 6-32 1.188" LG M/F SS
20	55.2178.0001	1	EA	CABLE ANCHOR MOUNT, #8 SCREW MOUNTING
21	55.2186.0001	1	EA	CABLE TIE, .10" WD 4.00" LG SMALL
22	55.2191.0001	1	EA	CABLE CLAMP, 1/2" WIDE , 5/8" CABLE
23	55.6538.0001	4	EA	WASHER, #6 LOCK INTERNAL TOOTH
24	55.6549.0001	5	EA	WASHER, 1/4" SPLIT LOCK
25	55.6564.0001	8	EA	SCREW, 10-32 X 5/16" PPZ

No.	Item	Qty.	UM.	Description
26	55.6603.0001	1	EA	SPRING, SS 4.6#/IN. EXTENSION



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Figure 3-2: Top Assembly

Head

Head Assembly

21.9667.0005 (VL2201) Rev C

21.9673.0005 (VL2000 Spot) Rev A

Refer to Figure 3-3.

No.	Item	Qty.	UM.	Description
1	21.9667.0006	1	EA	ASSY, FRONT (VL2201 ONLY)
	21.9673.0006	1	EA	ASSY, FRONT(VL2000 ONLY)
2	21.9667.0009	1	EA	ASSY, REAR (VL2201 ONLY)
	21.9673.0009	1	EA	ASSY, REAR (VL2000 ONLY)
3	21.9667.0023	1	EA	ASSY, FRONT COVER
-	10.9660.0332	2	EA	PANEL, VENT COVER
-	10.9660.0333	2	EA	FILTER, AIR FRONT COVER
-	12.9667.0020	1	EA	MACHINED, FRONT COVER
-	53.6534.0004	2	EA	RIVET, 3/32" OD POP 3/16 GRIP L STEEL
-	53.6633.0002	4	EA	SCREW, #4 X 3/8" PFZ SHT METAL
-	55.2233.0001	1	EA	RECEPTACLE, 1/4 TURN
4	21.9667.0024	1	EA	ASSY, FAN COVER (VL2201 ONLY)
	21.9673.0024	1	EA	ASSY, FAN COVER (VL2000 ONLY)
5	21.9667.0131	1	EA	ASSY, COLOR/GOBO/LINK IRIS BULKHEAD (VL2201 ONLY)
	21.9673.0131	1	EA	ASSY, COLOR/GOBO/LINK IRIS BULKHEAD (VL2000 ONLY)
6	21.9667.0205	1	EA	ASSY, DIMMER BULKHEAD (VL2201 ONLY)
	21.9673.0290	1	EA	ASSY, DIMMER BULKHEAD (VL2000 ONLY)
7	22.9667.0031	1	EA	ASSY, TOP COVER REMOVABLE
-	10.9638.0233	1	EA	TETHER, REMOVABLE COVER
-	10.9660.0710	1	EA	COVER, REMOVABLE
-	55.2233.0003	2	EA	RETAINER, PUSH-ON TYPE
-	55.2233.0008	1	EA	STUD, 1/4 TURN .495" L STEEL BLK ZINC
-	55.2233.0014	1	EA	STUD, 1/4 TURN .615" L STEEL BLK ZINC
	25.9667.0007	1	EA	CABLE ASSY, MOTOR HARNESS (not shown)
8	53.5604.0250	1	EA	SCREW, 4-40 X 1/4" PPSS BLK
9	53.6525.0001	4	EA	SCREW, 6-32 X 5/16" PPZ
10	53.6558.0001	4	EA	SCREW, 6-32 X 3/8" PPZ
11	53.6625.0001	2	EA	SCREW, 10-32 X 1/2" PPB

No.	Item	Qty.	UM.	Description
12	55.3301.0006	2	EA	WASHER, #6 FLAT SS
13	55.3303.0004	1	EA	WASHER, #4 LOCK INT.TOOTH SS
14	55.3303.0006	7	EA	WASHER, #6 LOCK INT.TOOTH SS
15	55.6596.0009	2	EA	CLAMP, CABLE 3/8" SS W/WHITE SILICONE CUSHION
16	55.6621.0001	1	EA	WASHER, #4 FLAT ZINC

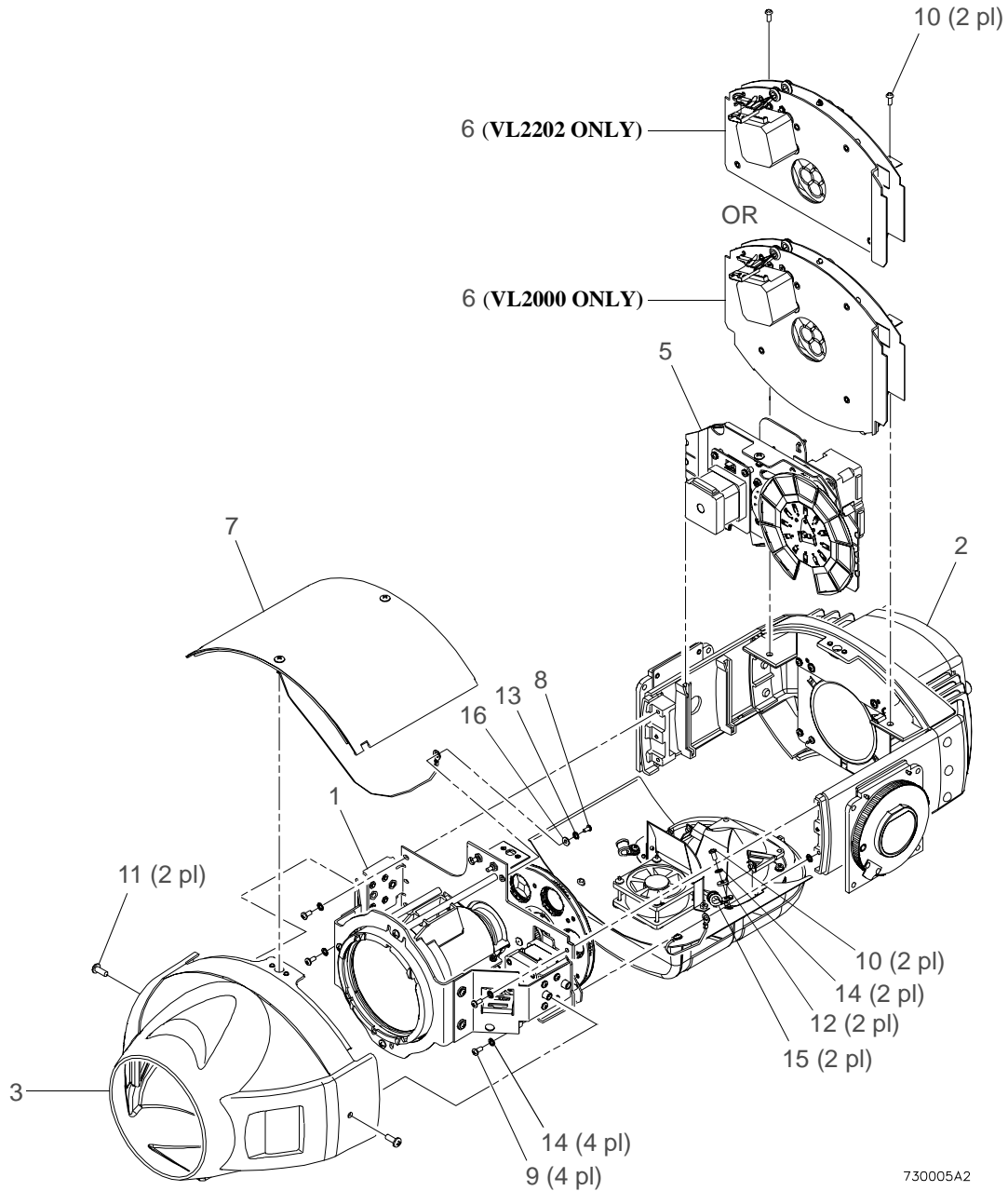


Figure 3-3: Head Assembly

Front Assembly

21.9667.0006 (VL2201) Rev F

21.9673.0006 (VL2000 Spot) Rev B

Refer to Figure 3-4.

No.	Item	Qty.	UM.	Description
1	10.9638.0151	1	EA	STABILIZER, MOTOR, VL6
2	10.9660.0129	1	EA	SHAFT STOP, ROTATING GOBO WHEEL -VL6B
3	10.9660.0130	1	EA	SHAFT, ROTATING GOBO WHEEL
4	10.9660.0219	3	EA	SHAFT 1, FOCUS BEARING -VL6B
5	10.9660.0263	1	EA	SUPPORT, LENS -VL6B
6	10.9667.0313	1	EA	LENS SUPPORT, CABLE MOUNT
7	10.9660.0349	1	EA	SUPPORT RING, OPTICAL -VL6B
8	10.9660.0372	1	EA	SUPPORT BRACKET, EDGE ACTUATOR
9	21.9660.0105	1	EA	ASSY, ROTATING GOBO WHEEL
10	21.9667.0306	1	EA	ASSY, LENS BARREL (VL2201 ONLY)
	21.9673.0306	1	EA	ASSY, LENS BARREL (VL2000 ONLY)
11	21.9667.0310	1	EA	ASSY, MOTOR EDGE
-	44.9660.0261	1	EA	MOTOR, 1.4" LINEAR -VL6B FOCUS
-	52.6579.0004	1	EA	CONN, 4CIR PNL MT SGL ROW W/MTG EARS
-	52.8347.0001	4	EA	CONTACT, 24-30AWG MALE CRIMP
12	21.9667.0312	1	EA	ASSY, FRONT PLATE
-	10.9660.0354	1	EA	BRACKET, STIFFENER BOTTOM
-	10.9667.0316	1	EA	MOUNTING BRACKET, HEAD FRONT
-	53.6569.0019	6	EA	RIVET, 5/32" OD POP .3125" L FLUSH HD SOLID ALUM
13	22.9660.0152	1	EA	ASSY, TENSION BRACKET MOTOR INDEX - VL6B
-	10.9660.0132	1	EA	BRACKET, TENSION DRIVE PULLEY SPIN GOBO WHL -VL6B
-	10.9660.0155	1	EA	PULLEY, 80 MXL 18 GROOVE ROTATION GOBO -VL6B
-	44.5031.0001	1	EA	MOTOR, STEPPER 42MM X 40MM, 10 OHM CUSTOM WINDINGS
-	53.6513.0008	2	EA	SCREW, M3 3MM X 5MM LG PFB METRIC .5 PITCH
14	22.9667.0337	1	EA	ASSY, MOUNTING BRACKET, 1/4 TURN
-	10.9667.0336	1	EA	1/4 TURN MOUNT
-	53.6534.0002	2	EA	RIVET, 3/32" OD POP 3/16 GRIP RNG ALUM
-	55.2233.0001	1	EA	RECEPTACLE, 1/3 TURN
15	22.9667.0315	1	EA	ASSY, TENSION BRACKET MOTOR WHEEL
-	10.9660.0132	1	EA	BRACKET, TENSION DRIVE PULLEY SPIN GOBO WHL -VL6B

VARI*LITE® - VL2000™ SPOT LUMINAIRE SERVICE MANUAL

No.	Item	Qty.	UM.	Description
-	10.9660.0155	1	EA	PULLEY, 80 MXL 18 GROOVE ROTATING GOBO -VL6B
-	44.5031.0001	1	EA	MOTOR, STEPPER 42MM X 40MM, 10 OHM CUSTOM WINDINGS
-	53.6513.0008	3	EA	SCREW, M3 3MM X 5MM LG PFB METRIC .5 PITCH
16	24.9667.0321	1	EA	PCB ASSY, SENSOR ROTATING GOBO
17	53.2200.0004	1	EA	NUT, 4-40 KEPS SS
18	53.6513.0026	1	EA	SCREW, M3 X .5 X 12MM LG PPSS METRIC
19	53.6520.0001	6	EA	SCREW, 4-40 X 3/8" PPZ
20	53.6545.0004	3	EA	SCREW, 8-32 X 3/8" PPZ
21	53.6559.0001	3	EA	SCREW, 4-40 X 1/4" PFZ (VL2000 ONLY)
22	53.6608.0003	8	EA	SCREW, 6-32 X 3/16" LG PPZ
23	53.6613.0001	8	EA	SCREW, 6-32 X 1/2" PPZ
24	53.6515.0001	2	EA	SCREW, 10-32 X 3/4" SCB CAP
25	54.2029.0001	1	EA	BELT, TIMING MXL .080" PITCH 70 GRV 3/16" WD KEVLAR
26	54.2032.0001	1	EA	BELT, TIMING MXL .080" PITCH 87 GRV 3/16" POLY CORD WD
27	55.2118.0004	1	EA	WASHER, .735" OD .395" ID .011" THK CURVD SPRNG
28	55.2118.0005	1	EA	WASHER, .735" OD .395" ID .016" THK CURVD SPRNG
	55.2179.0003	1	EA	SADDLE, CABLE .75 X .75" 4WAY ADH BACK WHITE (not shown)
	55.2186.0001	3	EA	CABLE TIE, .10" WD 4.00" LG SMALL (not shown)
29	55.3301.0004	1	EA	WAHER, #4 FLAT SS
30	55.3301.0006	4	EA	WASHER, #6 FLAT SS
31	55.3301.0010	2	EA	WASHER, #10 FLAT
32	55.3303.0004	4	EA	WASHER, #4 LOCK INT.TOOTH SS
33	55.6506.0009	1	EA	SPACER, 1/2" RND .125" LG .375" ID SHAFT
34	55.6603.0001	1	EA	SPRING, SS 4.6#/IN. EXTENSION
35	55.6621.0001	1	EA	WASHER, #4 FLAT ZINC
36	55.6697.0007	2	EA	STANDOFF, 3/16" RND 4-40 .828" LG FF ALUM

Front Assembly (cont.)

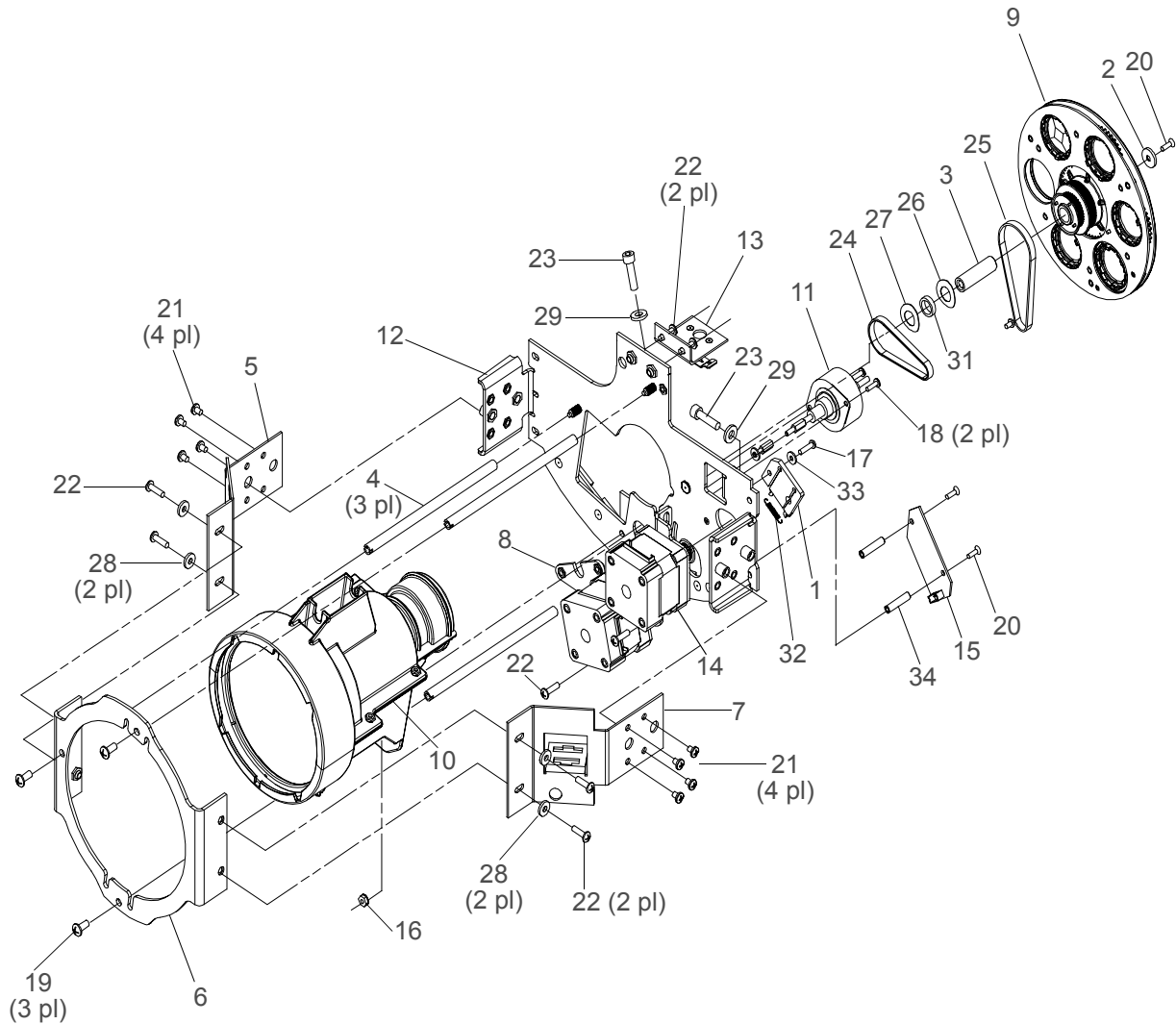


Figure 3-4: Front Assembly

Lens Barrel Assembly

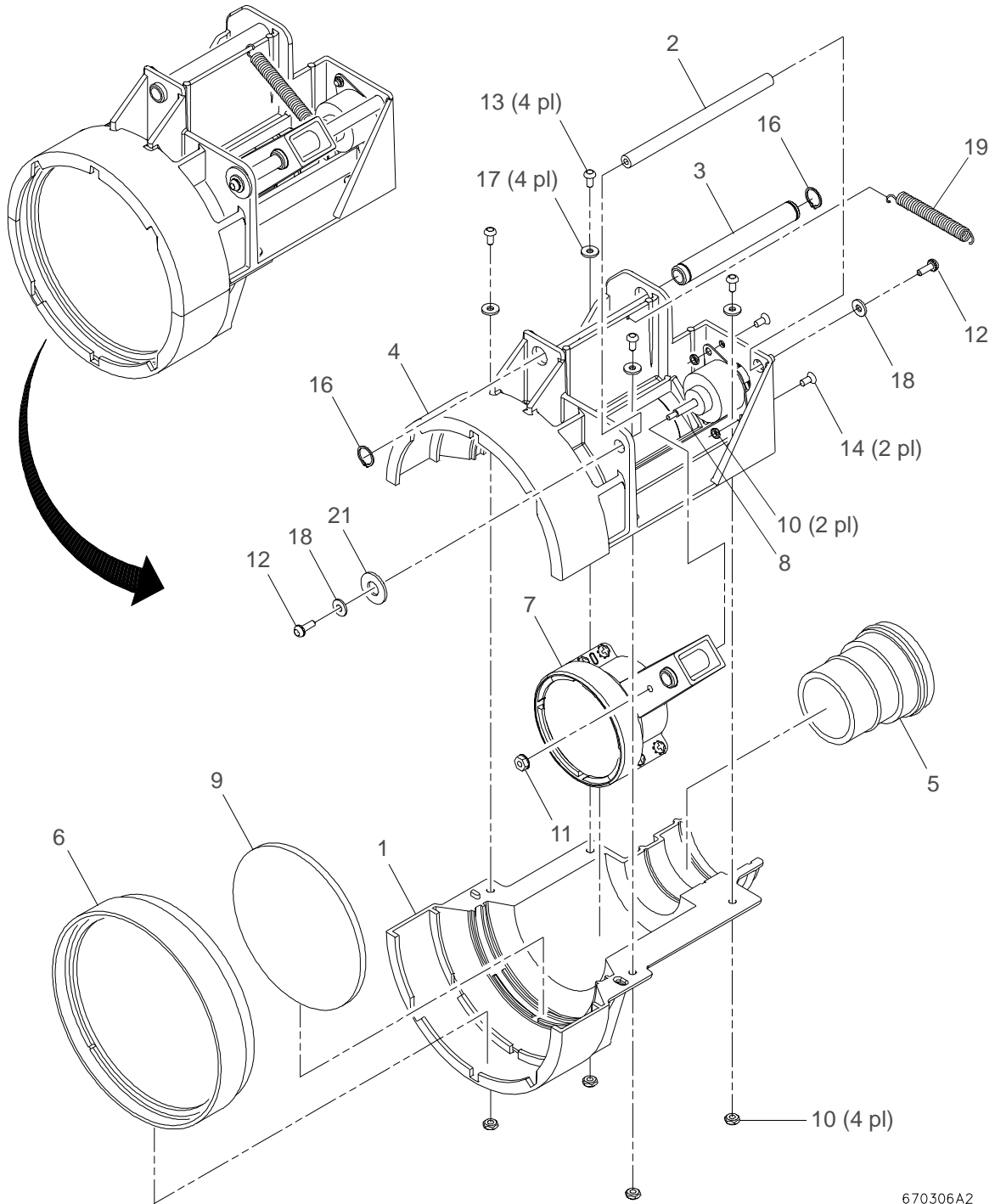
21.9667.0306 (VL2201) Rev A

21.9673.0306 (VL2000 Spot) Rev A

Refer to Figure 3-5.

No.	Item	Qty.	UM.	Description
1	10.9660.0232	1	EA	MOLDING, BARREL MAIN RIGHT (VL2201 ONLY)
	10.9673.0232	1	EA	MOLDING, BARREL MAIN RIGHT (VL2000 ONLY)
2	10.9660.0237	1	EA	SHAFT, ZOOM
3	10.9660.0267	1	EA	BRONZE SLEEVE BEARING, FOCUS
4	12.9660.0247	1	EA	MACHINED, BARREL MAIN LEFT (VL2201 ONLY)
	12.9673.0247	1	EA	MACHINED, BARREL MAIN LEFT (VL2000 ONLY)
5	21.9660.0225	1	EA	ASSY, SUB-BARREL GROUP 1
6	21.9660.0227	1	EA	ASSY, GROUP 3 SUB BARREL
7	21.9660.0229	1	EA	ASSY, GROUP 2 SUB BARREL (VL2201 ONLY)
	21.9673.0229	1	EA	ASSY, GROUP 2 SUB BARREL (VL2000 ONLY)
8	21.9667.0311	1	EA	ASSY, MOTOR ZOOM OPTICS
9	42.9660.0026	1	EA	LENS 9, ZOOM OPTICS
10	53.2200.0004	6	EA	NUT, 4-40 KEPS SS
11	53.2202.0004	1	EA	NUT, 4-40 HEX SS NYLON INSERT
12	53.5504.0250	2	EA	SCREW, 4-40 X 1/4" PPSS
13	53.5504.0375	4	EA	SCREW, 4-40 X 3/8" PPSS
14	53.5534.0375	2	EA	SCREW, 4-40 X 3/8" PFSS BLACK
15	53.6539.0008	1	EA	WASHER, 1/4" FLAT SS
16	55.2249.0002	2	EA	RETAINING RING, GRV DIA .352" EXTERNAL SS
17	55.3301.0004	4	EA	WASHER, #4 FLAT SS
18	55.3301.0006	2	EA	WASHER, #6 FLAT SS
19	55.6568.0070	1	EA	STABILIZING SPRING

Lens Barrel Assembly (cont.)



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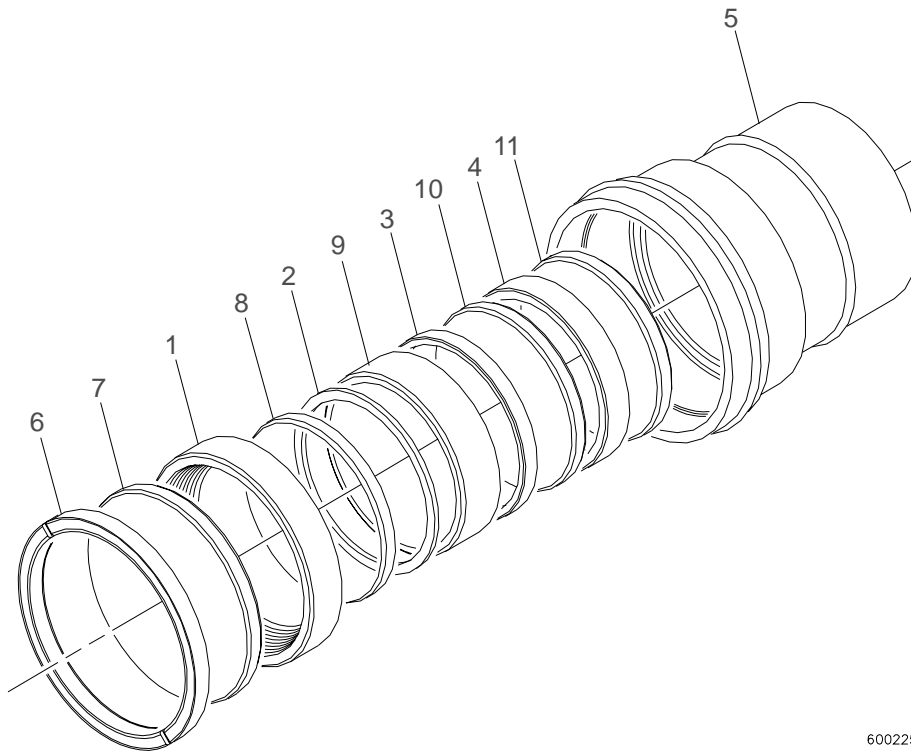
Figure 3-5: Lens Barrel Assembly

Sub-Barrel Group 1 Assembly

21.9660.0225 Rev B

Refer to Figure 3-6.

No.	Item	Qty.	UM.	Description
1	10.9660.0211	1	EA	SPACER, LENS 1-2, VL6B
2	10.9660.0212	1	EA	SPACER, LENS 2-3, VL6B
3	10.9660.0213	1	EA	SPACER, LENS 3-4, VL6B
4	10.9660.0215	1	EA	SPACER, LENS 4-5, VL6B
5	10.9660.0216	1	EA	SUB-BARREL, GROUP 1 -VL6B
6	10.9660.0226	1	EA	RETAINER, LENS #1, VL6B
7	42.9660.0018	1	EA	LENS 1, ZOOM OPTICS, VL6B
8	42.9660.0019	1	EA	LENS 2, ZOOM OPTICS, VL6B
9	42.9660.0020	1	EA	LENS 3, ZOOM OPTICS, VL6B
10	42.9660.0029	1	EA	LENS 4, ZOOM OPTICS, VL6B
11	42.9660.0030	1	EA	LENS 5, ZOOM OPTICS, VL6B



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Figure 3-6: Sub-Barrel Group 1 Assembly

Sub-Barrel Group 2 Assembly

21.9660.0229 (VL2201) Rev B

21.9673.0229 (VL2000 Spot) Rev A

Refer to Figure 3-7.

No.	Item	Qty.	UM.	Description
1	10.9660.0223	1	EA	MOLDING BARREL, RIGHT ZOOM (VL2201 ONLY)
	10.9673.0223	1	EA	MOLDING BARREL, RIGHT ZOOM (VL2000 ONLY)
2	10.9660.0246	1	EA	SPACER, GROUP 2
3	10.9660.0268	1	EA	BRONZE SLEEVE BEARING, ZOOM
4	12.9660.0224	1	EA	MACHINED, BARREL LEFT ZOOM (VL2201 ONLY)
	12.9673.0224	1	EA	MACHINED, BARREL LEFT ZOOM (VL2000 ONLY)
5	42.9660.0023	1	EA	LENS 6, ZOOM OPTICS
6	42.9660.0024	1	EA	LENS 7, ZOOM OPTICS
7	42.9660.0025	1	EA	LENS 8, ZOOM OPTICS
8	53.2201.0004	4	EA	NUT, 4-40 HEX SS
9	53.5504.0375	4	EA	SCREW, 4-40 X 3/8" PPSS
10	55.2249.0002	2	EA	RETAINING RING, GRV DIA .352" EXTERNAL SS
11	55.6590.0011	4	EA	WASHER, #4 LOCK EXT TOOTH

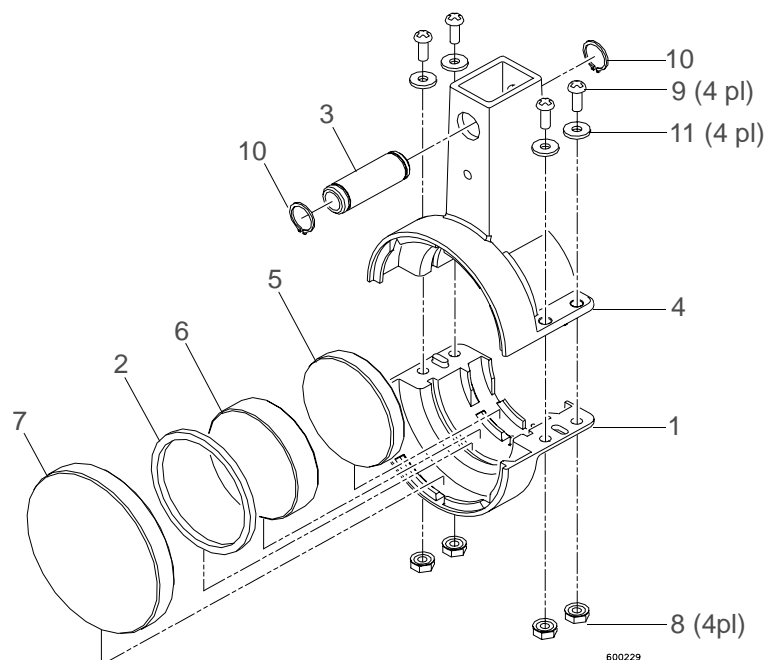


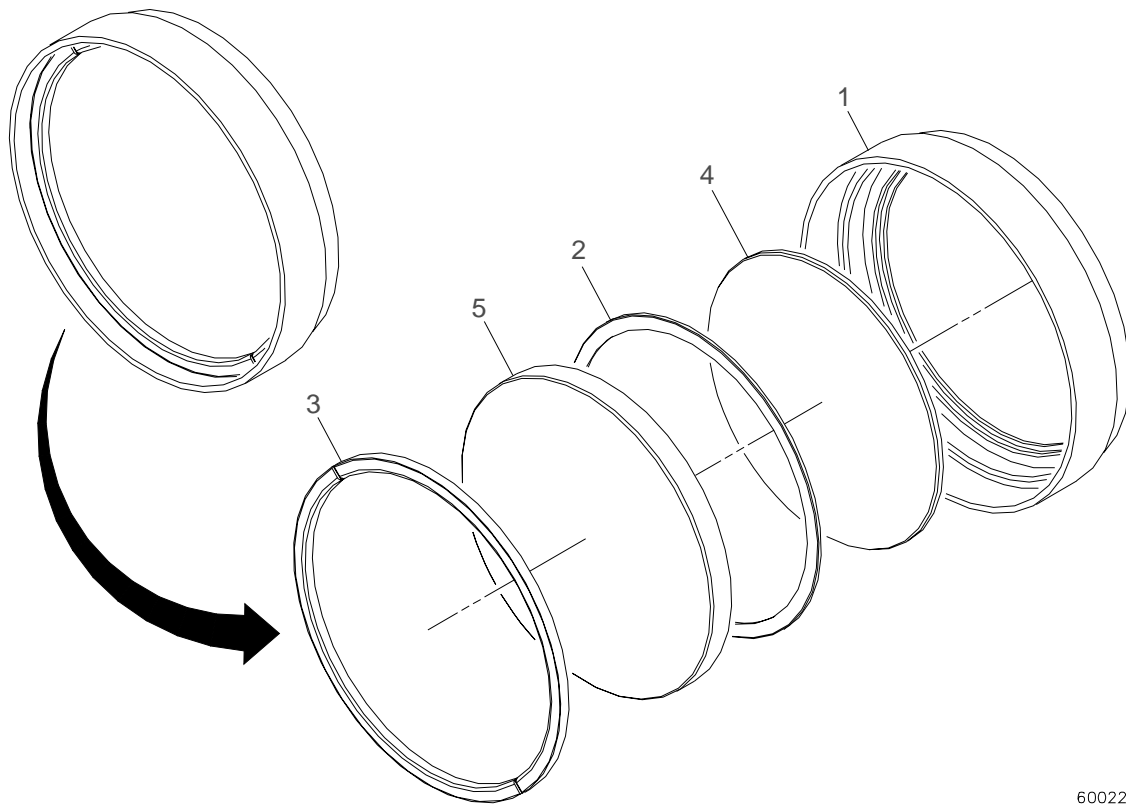
Figure 3-7: Sub-Barrel Group 2 Assembly

Sub-Barrel Group 3 Assembly

21.9660.0227 Rev B

Refer to Figure 3-8.

No.	Item	Qty.	UM.	Description
1	10.9660.0217	1	EA	SUB-BARREL, GROUP 3 -VL6B
2	10.9660.0218	1	EA	SPACER, LENS 10-11, VL6B
3	10.9660.0228	1	EA	RETAINER, LENS #11, VL6B
4	42.9660.0027	1	EA	LENS 10, ZOOM OPTICS, VL6B
5	42.9660.0028	1	EA	LENS 11, ZOOM OPTICS, VL6B



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Figure 3-8: Sub-Barrel Group 3 Assembly

Motor Zoom Optics Assembly

21.9667.0311 Rev A

Refer to Figure 3-9.

No.	Item	Qty.	UM.	Description
1	44.9660.0262	1	EA	MOTOR, 1" LINEAR - ZOOM
2	52.6579.0005	1	EA	CONN, 5CIR PNL MT SGL ROW W/MTG EARS
3	52.8347.0001	4	EA	CONTACT, 24-30AWG MALE CRIMP

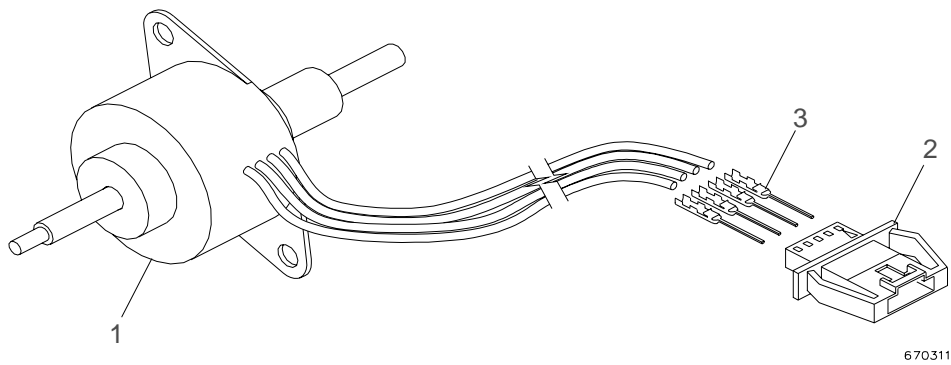


Figure 3-9: Motor Zoom Optics Assembly

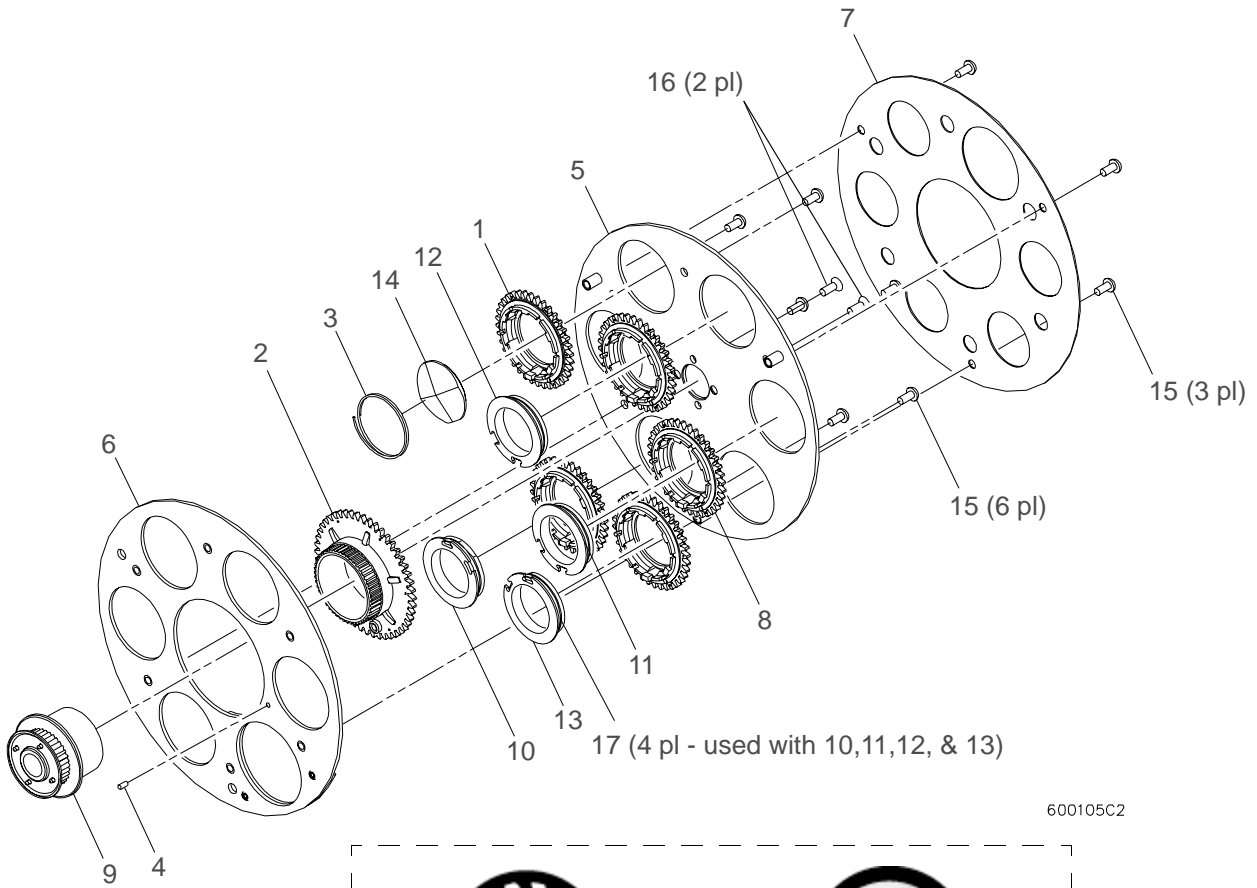
Rotating Gobo Wheel Assembly

21.9660.0105 Rev C

Refer to Figure 3-10.

No.	Item	Qty.	UM.	Description
1	10.9660.0110	4	EA	GOBO CARRIER, SPINNING GOBO WHEEL
2	10.9660.0112	1	EA	SUN GEAR, SPINNING GOBO WHEEL
3	10.9660.0144	1	EA	SPRING GOBO RETAINER, SPINNING GOBO WHEEL
4	10.9660.0153	1	EA	MAGNET, HALL EFFECT SENSOR .07ID
5	10.9667.0333	1	EA	MOUNTING PLATE, FRONT (ROTATING GOBO WHEEL)
6	10.9667.0334	1	EA	MOUNTING PLATE, AFT (ROTATING GOBO WHEEL)
7	10.9667.0335	1	EA	LIGHT SHIELD, SPINNING GOBO WHEEL
8	21.9660.0102	1	EA	ASSY, SENSOR PLANET GEAR
9	21.9660.0147	1	EA	ASSY., DRIVE HUB/PULLEY FLANGE, SPINNING GOBO WHEEL
-	10.9660.0111	1	EA	DRIVE HUB, SPINNING GOBO WHEEL - VL6B
-	10.9660.0148	1	EA	PULLEY FLANGE, DRIVE HUB SPINNING GOBO WHEEL
10	41.6016.4305	1	EA	ASSY, GOBO PINWHEEL
11	41.6016.4316	1	EA	ASSY, VL6B SPINNING GOBO HYPNOSPIRAL
12	41.6016.6011	1	EA	ASSY, VL6B SPINNING GOBO CIRCLE OF OVALS
13	41.6016.6990	1	EA	ASSY, VL6B SPINNING GOBO SPIRAL STONES
14	41.6016.8004	1	EA	4 FACET PRISM
15	53.6597.0001	9	EA	SCREW, 4-40 X 3/16" PPZ
16	53.6633.0002	2	EA	SCREW, #4 X 3/8" PFZ SHT METAL
17	55.7005.0015	4	EA	O-RING, GOBO .869" ID 0.07"W

Rotating Gobo Wheel Assembly (cont.)



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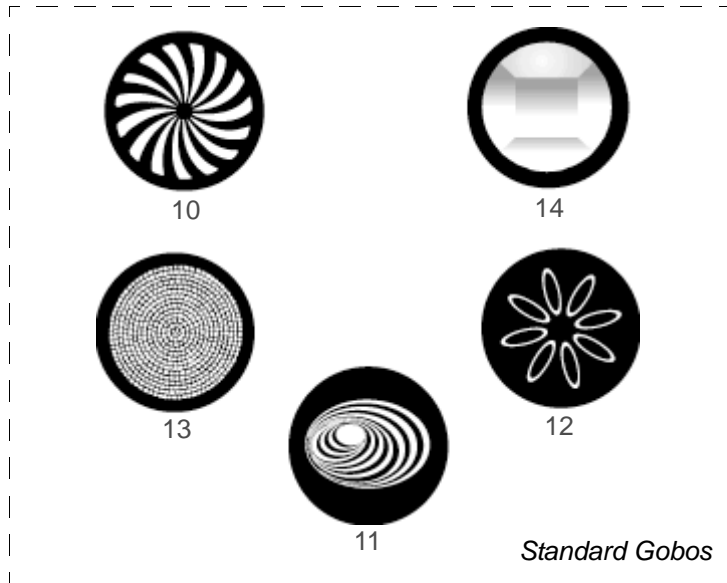


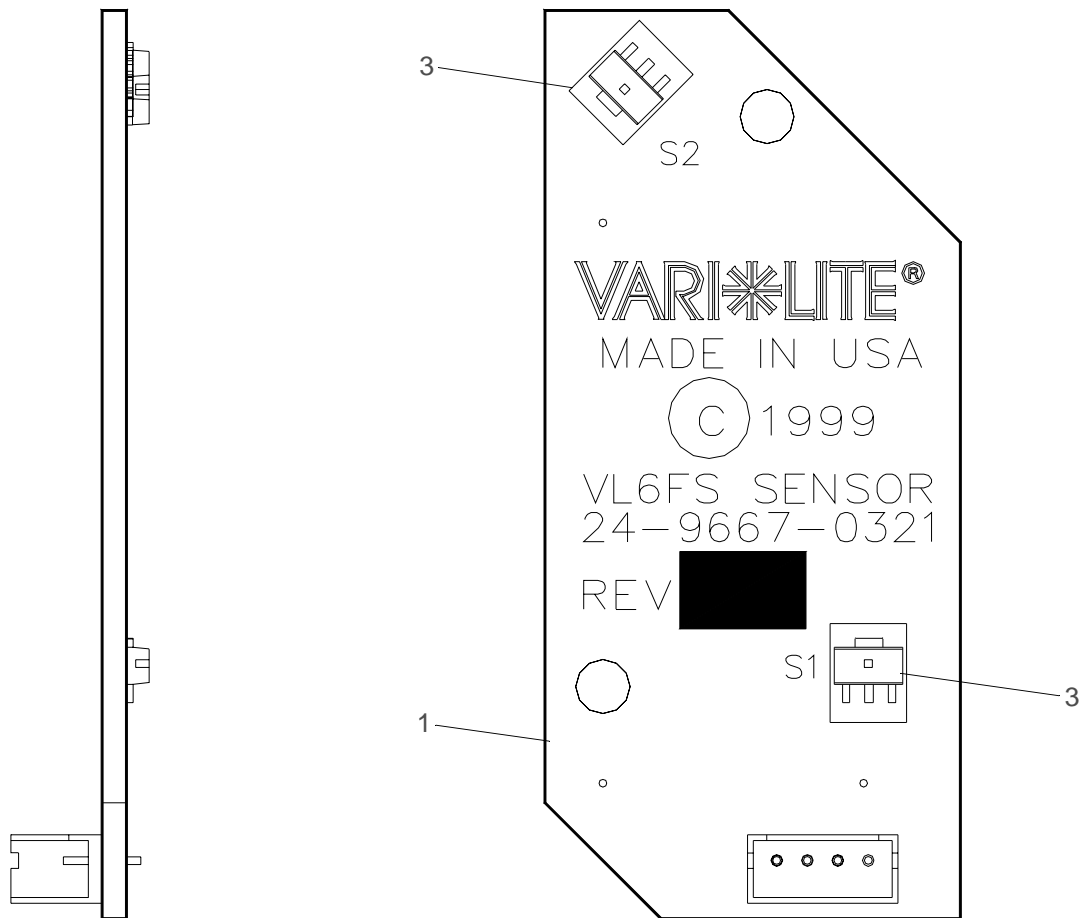
Figure 3-10: Rotating Gobo Wheel Assembly

Sensor Rotating Gobo PCB Assembly

24.9667.0321 Rev A

Refer to Figure 3-11.

No.	Item	Qty.	UM.	Description
1	11.9667.0321	1	EA	PCB, SENSOR ROTATING GOBO
2	52.6447.0004	1	EA	HEADER, SHROUDED 4 POSITION
3	86.7005.0001	2	EA	SENSOR, HALL-EFFECT A3141LLT SUR MT



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Figure 3-11: Sensor Rotating Gobo PCB Assembly

Rear Assembly

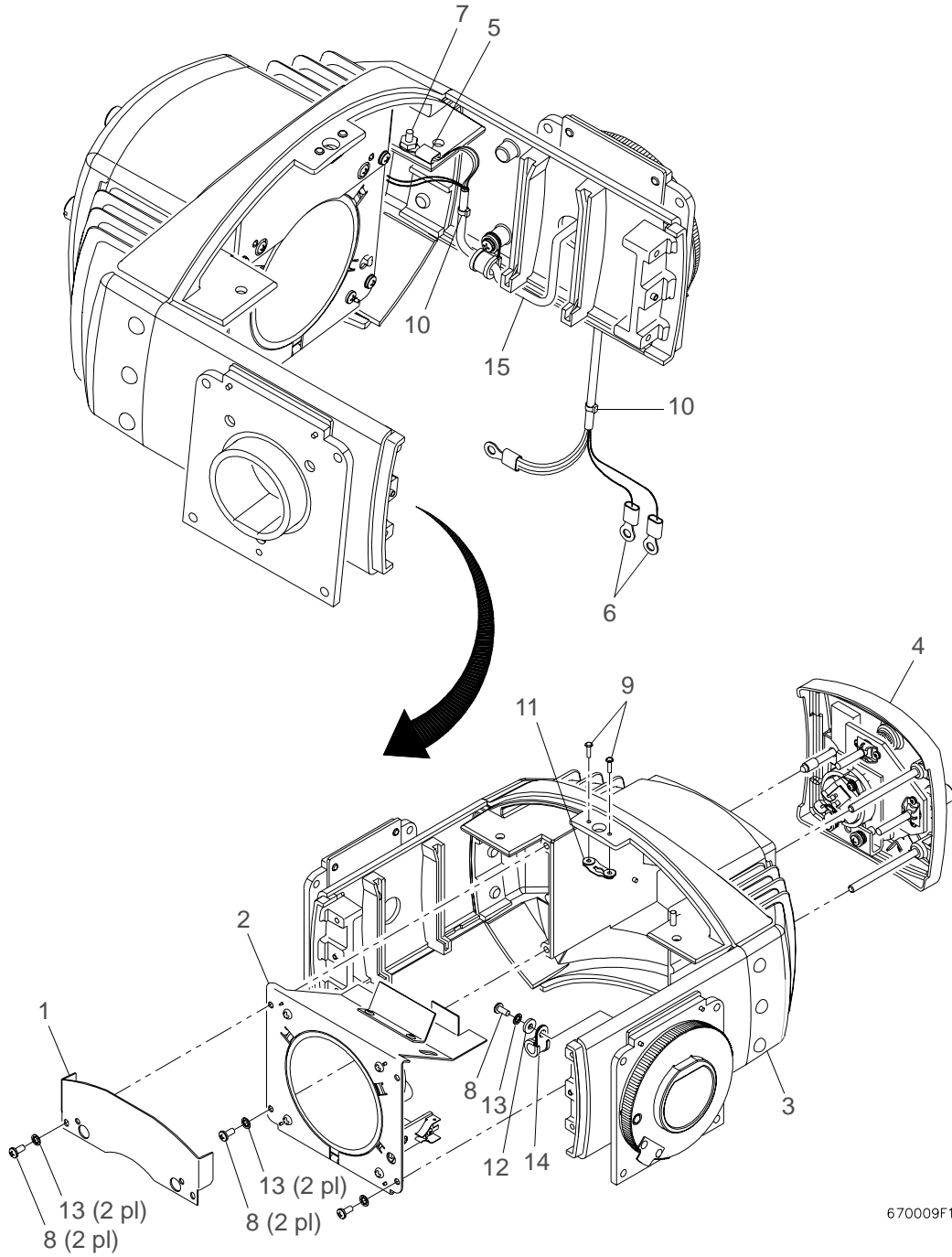
21.9667.0009 (VL2201) Rev F

21.9673.0009 (VL2000 Spot) Rev A

Refer to Figure 3-12.

No.	Item	Qty.	UM.	Description
1	10.9638.0052	1	EA	DAM, AIR
2	21.9660.0340.01	1	EA	ASSY, REFLECTOR LUMINAIRE (VL2201 ONLY)
	21.9660.0340.03	1	EA	ASSY, REFLECTOR LUMINAIRE (VL2000 ONLY)
3	22.9667.0036	1	EA	ASSY, TILT PULLEY/BEARING ASSY PRESS TO CASTING ASSY
4	22.9667.0404	1	EA	ASSY, BACK CAP
5	25.9667.0028	1	EA	CABLE ASSY, YOKE TO HEAD GND
6	52.8231.0005	2	EA	TERM, #6 RING 16-14AWG REEL PIDG
7	53.2002.0001	1	EA	NUT, 6-32 KEP ZINC PLATED
8	53.6525.0001	5	EA	SCREW, 6-32 X 5/16" PPZ
9	53.6534.0004	2	EA	RIVET, 3/32" OD POP 3/16 GRIP L STEEL
10	55.2186.0001	2	EA	CABLE TIE, .10" WD 4.00" LG SMALL
11	55.2233.0001	1	EA	RECEPTACLE, 1/4 TURN
12	55.3301.0006	1	EA	WASHER, #6 FLAT SS
13	55.3303.0006	5	EA	WASHER, #6 LOCK INT.TOOTH SS
14	55.6596.0009	1	EA	CLAMP, CABLE 3/8" SS W/WHITE SILICONE CUSHION
15	55.6699.0003	1.17	FT	SLEEVING, 1/2" NOM.DIA. POLY EXP BRAIDED

Rear Assembly (cont.)



670009F1

Figure 3-12: Rear Assembly

Tilt Pulley/Bearing Assembly

22.9667.0036 Rev. F

Refer to Figure 3-13.

No.	Item	Qty.	UM.	Description
1	10.9667.0621	1	EA	SPACER FLANGE, TILT PULLEY
2	22.9667.0039	1	EA	ASSY, REAR CASTING & SIDE RAILS
3	22.9676.0086	3	EA	ASSY, TILT BEARING HOUSING
4	22.9667.0602	1	EA	ASSY, TILT PULLEY 150 TOOTH, 2MM PITCH
-	10.9667.0618	1	EA	TIMING PULLEY, 150 TOOTH 2MM PITCH 2.062 ID
-	10.9667.0620	1	EA	EOT FLAG, TILT - VL2201
-	53.6530.0004	2	EA	RIVET, 1/8" OD CSK .126-.250" CRB STL
-	55.6612.0023	1	EA	PIN, GRV .250"OD .500"LG STL ZINC PLTD

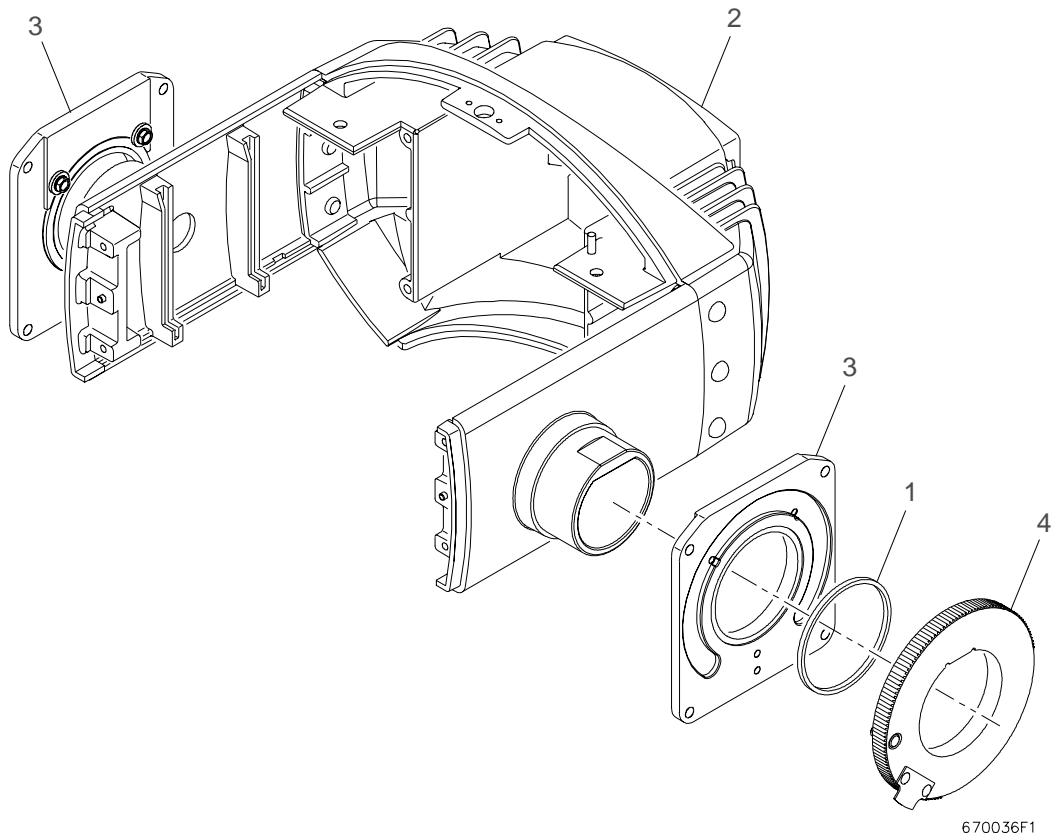


Figure 3-13: Tilt Pulley/Bearing Assembly

Tilt Bearing Housing Assembly

22.9676.0086 Rev 0

Refer to Figure 3-14

No.	Item	Qty.	UM.	Description
1	12.9676.0085	1	EA	HOUSING, TILT BEARING, MACHINED
2	53.6506.0001	1	EA	BEARING, TORQUE TUBE, 2.625 OD
3	53.6522.2500	3	EA	SCREW, 6-32 X 1/4 HEX MACH, UNSLOTTED, ZINC
4	55.3303.0006	3	EA	WASHER, #6 LOCK INT. TOOTH SS
5	55.6677.0006	3	EA	WASHER, .434 OD .156 ID .062 THK FLAT SS

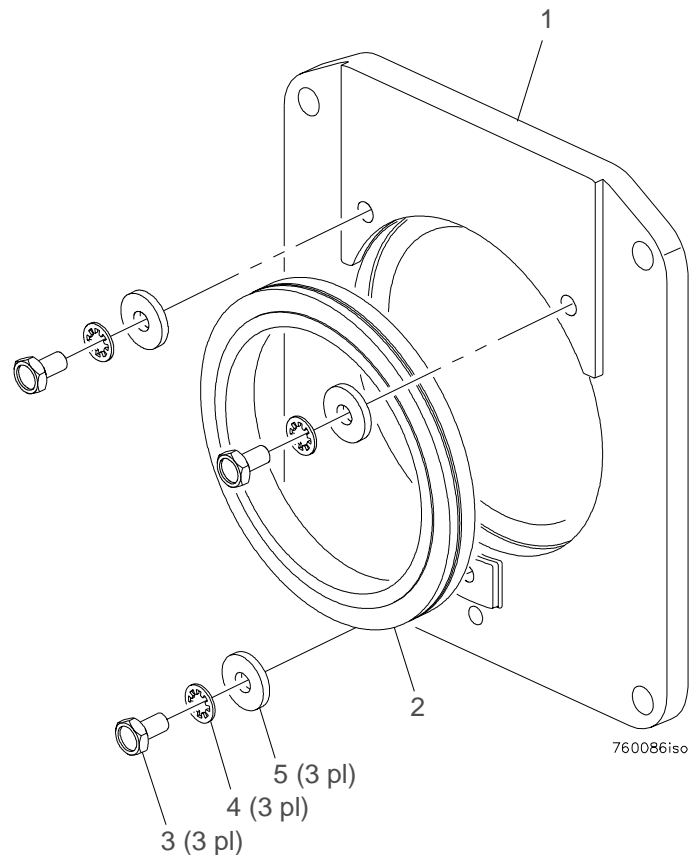


Figure 3-14: Tilt Bearing Housing Assembly

Reflector Assembly

21.9660.0340.01 (VL2201) Rev 0

21.9660.0340.03 (VL2000 Spot) Rev F

Refer to Figure 3-15.

No.	Item	Qty.	UM.	Description
1	10.9638.0057	4	EA	CLIP, MOUNTING, REFLECTOR
2	12.9660.0073	1	EA	ELLIPSOIDAL REFLECTOR - SMOOTH, COATED (VL2201 ONLY)
	41.9660.0021	1	EA	ELLIPSOIDAL REFLECTOR-45 LUNES, COATED (VL2000 ONLY)
3	22.9660.0334	1	EA	FAB ASSY, REFLECTOR MOUNT (VL2201 ONLY)
	22.9673.0333	1	EA	FAB ASSY, REFLECTOR MOUNT (VL2000 ONLY)
4	22.9660.0338	1	EA	ASSY, DISCONNECT LAMP
-	10.9660.0335	1	EA	CONTACT, CONTACT DISCONNECT LAMP
-	10.9660.0336	1	EA	INSULATOR, DISCONNECT
-	53.6534.0365	2	EA	RIVET, 3/32" OD POP .365L .126-.250 GRIP AL5052
-	55.3301.0003	2	EA	WASHER, FLAT #2 AN, ID.099" X OD.250"
5	53.6525.0001	4	EA	SCREW, 6-32 X 5/16" PPZ
6	53.6599.0001	2	EA	SCREW, 4-40 X 3/8" PFZ

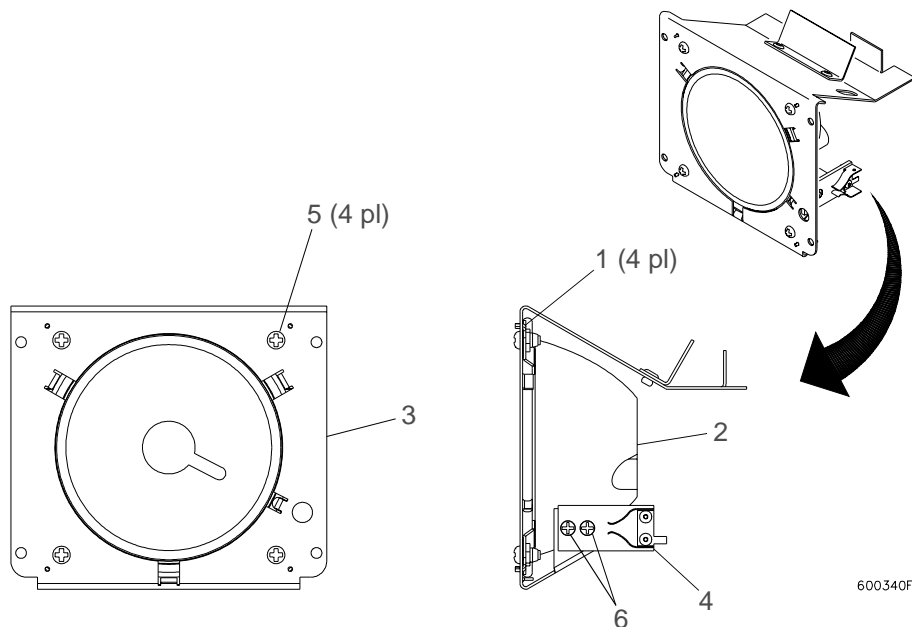


Figure 3-15: Reflector Assembly

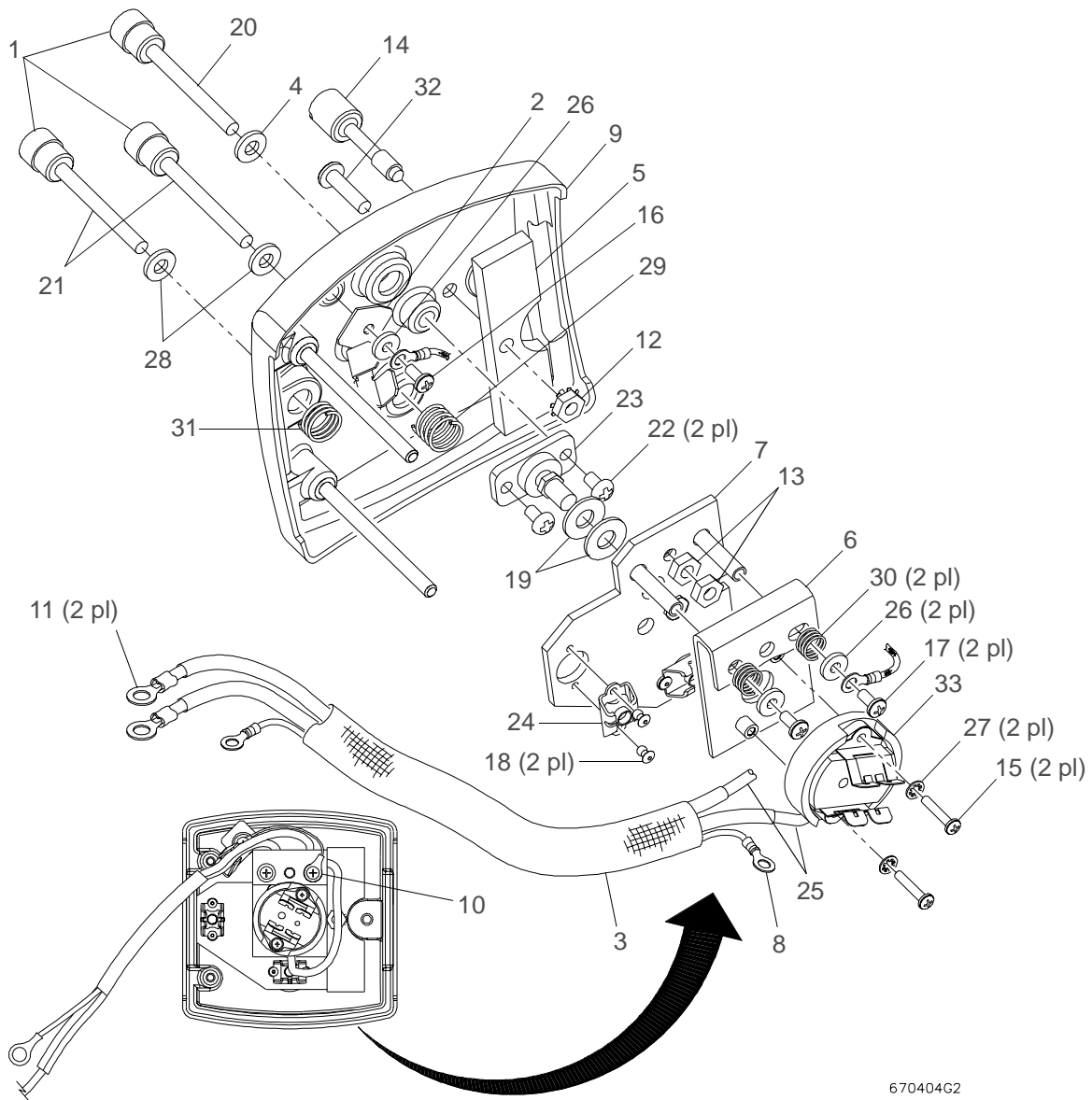
Back Cap Assembly

22.9667.0404 Rev G

Refer to Figure 3-16.

No.	Item	Qty.	UM.	Description
1	10.9638.0117	3	EA	KNOB, KNURLED, VL6 BACK CAP/LAMP ASSY.
2	10.9638.0128	1	EA	BRACKET, IGNITOR CABLE
3	10.9638.0130	1	EA	SPRING, BULB WIRE SHEATH
4	10.9638.0164	1	EA	WASHER, FELT
5	10.9660.0352	1	EA	COUNTERWEIGHT, VL6B
6	10.9667.0411	1	EA	LAMP CARRIAGE
7	10.9667.0412	1	EA	LAMP TILT PLATE
8	22.9638.0129	1	EA	TETHER, VL6 BACKCAP
-	52.8311.0003	1	EA	TERM, RING #6 14-16 AWG NON-INS TAPE
-	73.7130.0002	.75	FT	WIRE, 7/64" TUBULAR BRAID SILVER-PLATED
9	22.9638.0265	1	EA	CASTING, BACKCAP, VL6
-	10.9638.0034	1	EA	CASTING, BACKCAP, VL6
-	55.6612.0005	2	EA	PIN, 3/16OD X 2 3/4L TYPE C LOW CARBON STEEL
10	25.9667.0413	1	EA	CABLE ASSY, GROUND -TILT PLATE
-	52.8311.0003	2	EA	TERM, RING #6 14-16AWG NON-INS. TAPE
-	73.7130.0002	0.21	FT	WIRE, 7/64" TUBULAR BRAID SILVER-PLATED
11	52.8231.0005	2	EA	TERM, RING #6 BLUE 16-14 AWG REEL PIDG
12	53.2200.0010	1	EA	NUT, 10-32 KEPS SS
13	53.2201.0010	2	EA	NUT, 10-32 HEX SS
14	53.5638.1250	1	EA	SCREW, 1/4-28 X 1 1/4" CAPTIVE
15	53.6519.0001	2	EA	SCREW, 4-40 X 5/8" PPZ VL-1
16	53.6525.0001	1	EA	SCREW, 6-32 X 5/16" PPZ
17	53.6526.0001	2	EA	SCREW, 6-32 X 5/8" PPZ
18	53.6534.0002	4	EA	RIVET, 3/32" OD POP 3/16 GRIP RNG ALUM
19	53.6539.0008	2	EA	WASHER, 1/4" FLAT SS
20	53.6539.0011	1	EA	SCREW, 10-32 X 2 1/4" PFBSS UNF-2A
21	53.6539.0012	2	EA	SCREW, 10-32 X 2" PFBSS UNF-2A
22	53.6546.0002	2	EA	SCREW, 8-32 X 5/16" PPZ
23	54.1209.0002	1	EA	SWIVEL BEARING ASSY.,.385 STUD LNGTH
24	55.2134.0003	2	EA	PLATE, FLOATING NUT 10-32
25	55.2260.0208	1.92	FT	SLEEVING, .208ID SILICONE RUBBER COATED FIBERGLASS

No.	Item	Qty.	UM.	Description
26	55.3301.0006	3	EA	WASHER, #6 FLAT SS
27	55.3303.0004	2	EA	WASHER, #4 LOCK INT.TOOTH SS
28	55.6540.0001	2	EA	WASHER, #10 FLAT BRASS
29	55.6568.0017	1	EA	SPRING, CPRSN .480" OD 1.500" LG SS
30	55.6568.0036	2	EA	SPRING, CPRSN .360" OD .690" LG .032" WIRE DIA SS
31	55.6568.0048	1	EA	SPRING, CPRSN .480" OD 1.000" LG SS
32	55.6575.0001	1	EA	SCREW, 10-32 X 3/4" PPB
33	71.2502.0003	1	EA	SOCKET, FASSUNG GY9.5 W/584MM LEADS



670404G2

Figure 3-16: Lamp Assembly

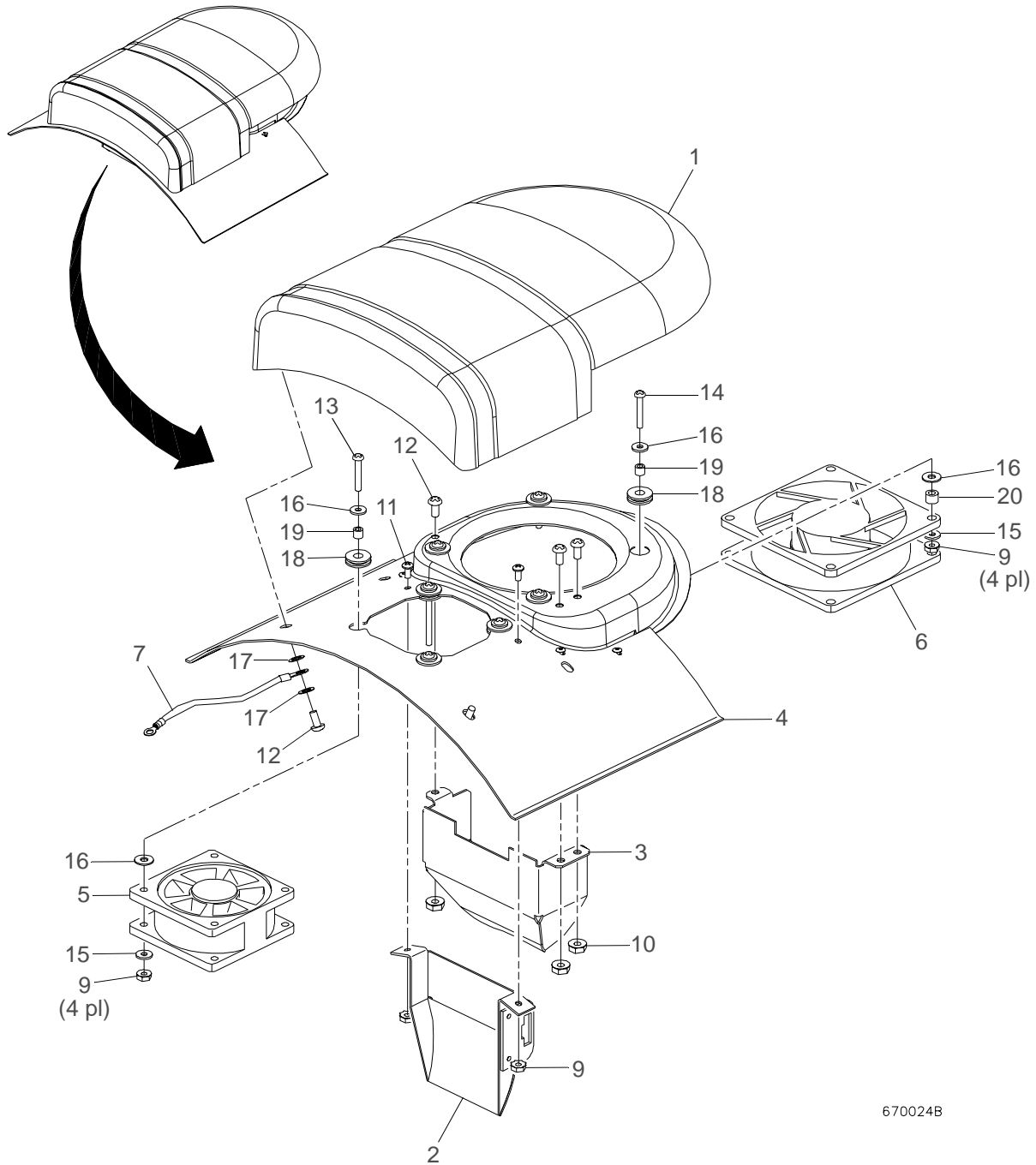
Fan Cover Assembly - VL2201

21.9667.0024 (VL2201 ONLY) Rev B

Refer to Figure 3-17.

No.	Item	Qty.	UM.	Description
1	10.9638.0192	1	EA	BAFFLE COVER, MOLDED, PLASTIC
2	21.9667.0510Rev 0	1	EA	ASSY, FAN DUCT
-	10.9667.0511	1	EA	DUCT, SMALL FAN
-	10.9667.0512	1	EA	CABLE MOUNT, SMALL DUCT
-	53.6534.0002	2	EA	RIVET, 3/32" OD POP 3/16 GRIP RNG ALUM
3	22.9638.0058Rev C	1	EA	DUCT ASSY, FAN, LARGE, VL6
-	10.9638.0051	1	EA	LARGE FAN DUCT
-	10.9638.0056	1	EA	AIR DEFLECTOR, LARGE FAN
-	10.9638.0145	1	EA	VANE, LARGE FAN DUCT
-	53.6534.0001	4	EA	RIVET, 3/32" OD POP 3/32 GRIP RANGE ALUM
4	22.9638.0148Rev 0	1	EA	COVER ASSY, SLIDING, FAN MOUNT
-	10.9638.0061	1	EA	COVER, SLIDING, VL6
-	10.9638.0091	1	EA	MOUNT, FAN, VL6
5	23.9667.0025Rev A	1	EA	ASSY, 60MM FAN
-	40.7110.0006	1	EA	FAN, VL6, 60MM SQ X 25MM THK 24V HIGH VOLUME
-	52.8347.0001	2	EA	CONTACT, 24-30AWG MALE CRIMP
6	23.9667.0026Rev A	1	EA	ASSY, 80MM FAN
-	40.7113.0001	1	EA	FAN, +24V 80 X 80 X 25MM 32CFM
-	52.8347.0001	2	EA	CONTACT, 24-30AWG MALE CRIMP
7	25.8007.2212	1	EA	GND STRAP ASSY, #6 RING #6 RING 3" LG
8	52.6579.0004	1	EA	CONN, 4CIR PNL MT SGL ROW W/MTG EARS
9	53.2200.0004	10	EA	NUT, 4-40 KEPS SS
10	53.2200.0006	3	EA	NUT, 6-32 KEPS SS
11	53.5604.0250	2	EA	SCREW, 4-40 X 1/4" PPSS BLK
12	53.6525.0001	5	EA	SCREW, 6-32 X 5/16" PPZ
13	53.6537.0001	4	EA	SCREW, 4-40 X 5/8" PPB
14	53.6556.0002	4	EA	SCREW, 4-40 X 3/4" PPB
15	55.3301.0004	8	EA	WASHER, #4 FLAT SS
16	55.6517.0001	16	EA	WASHER, .375" OD .150" ID .031" THK FLAT STEEL
17	55.6538.0001	3	EA	WASHER, #6 LOCK INTERNAL TOOTH
18	55.6579.0006	8	EA	GROMMET, 3/8" HOLE 3/16" ID 1/2" OD

No.	Item	Qty.	UM.	Description
19	55.6595.0004	8	EA	SPACER, 3/16OD X .171L X #4HOLE ALUM.
20	55.6659.0001	4	EA	SPACER, 1/4" RND 4 THRU 3/16" AL



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Figure 3-17: Fan Cover Assembly (VL2201)

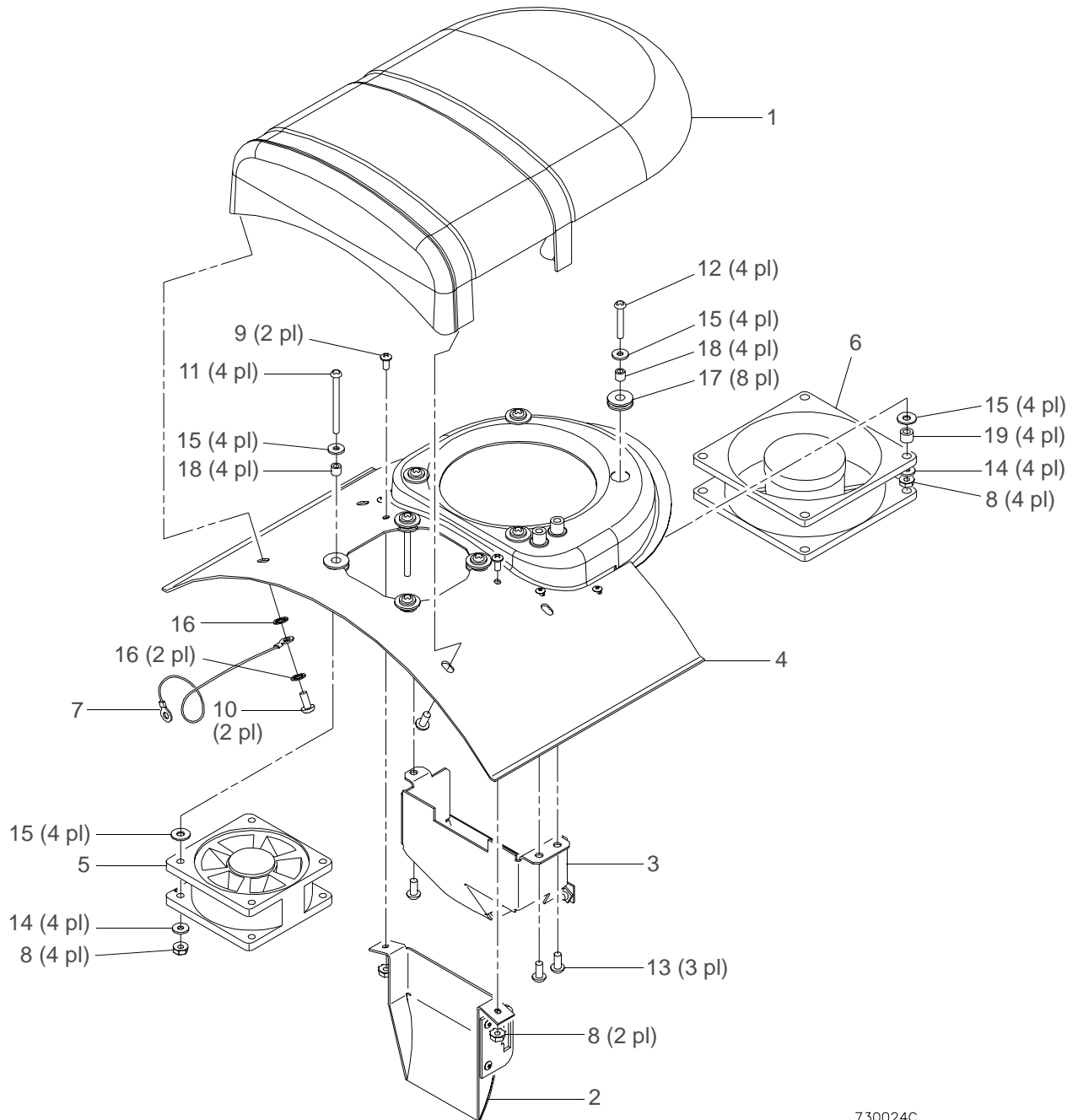
Fan Cover Assembly - VL2000 Spot

21.9673.0024 (VL2000 Spot) Rev C

Refer to Figure 3-18.

No.	Item	Qty.	UM.	Description
1	12.9671.0192	1	EA	BAFFLE COVER, MOLDED, PLASTIC
2	21.9667.0510	1	EA	ASSY, FAN DUCT
-	10.9667.0511	1	EA	DUCT, SMALL FAN
-	10.9667.0512	1	EA	CABLE MOUNT, SMALL DUCT
-	53.6534.0002	2	EA	RIVET, 3/32" OD POP 3/16 GRIP RNG ALUM
3	21.9671.0058	1	EA	DUCT ASSY, FAN, LARGE
-	10.9671.0051	1	EA	LARGE FAN DUCT
-	10.9638.0056	1	EA	AIR DEFLECTOR, LARGE FAN
-	53.6534.0001	4	EA	RIVET, 3/32" OD POP 3/32 GRIP RANGE ALUM
4	22.9671.0148	1	EA	COVER ASSY, SLIDING, FAN MOUNT
-	10.9638.0061	1	EA	COVER, SLIDING
-	12.9671.0091	1	EA	MOUNT, FAN
5	23.9667.0025	1	EA	ASSY, 60MM FAN
-	40.7110.0006	1	EA	FAN, 60MM SQ X 25MM THK 24V HIGH VOLUME
-	52.8347.0001	2	EA	CONTACT, 24-30AWG MALE CRIMP
6	23.9673.0026	1	EA	ASSY, 80MM FAN
-	40.7113.0002	1	EA	FAN, +24V 80 X 80 X 25MM 39CFM
-	52.8347.0001	2	EA	CONTACT, 24-30AWG MALE CRIMP
7	25.8007.2212	1	EA	GND STRAP ASSY, #6 RING #6 RING 3" LG
	52.6579.0004	1	EA	CONN, 4CIR PNL MT SGL ROW W/MTG EARS (not shown)
8	53.2200.0004	10	EA	NUT, 4-40 KEPS SS
9	53.5604.0250	2	EA	SCREW, 4-40 X 1/4" PPSS BLK
10	53.6525.0001	2	EA	SCREW, 6-32 X 5/16" PPZ
11	53.6537.0001	4	EA	SCREW, 4-40 X 5/8" PPB
12	53.6556.0002	4	EA	SCREW, 4-40 X 3/4" PPB
13	53.6613.0001	3	EA	SCREW, 6-32 X 1/2" PPZ
14	55.3301.0004	8	EA	WASHER, #4 FLAT SS
15	55.6517.0001	16	EA	WASHER, .375" OD .150" ID .031" THK FLAT STEEL
16	55.6538.0001	3	EA	WASHER, #6 LOCK INTERNAL TOOTH
17	55.6579.0006	8	EA	GROMMET, 3/8" HOLE 3/16" ID 1/2" OD
18	55.6595.0004	8	EA	SPACER, 3/16OD X .171L X #4HOLE ALUM.
19	55.6659.0001	4	EA	SPACER, 1/4" RND 4 THRU 3/16" AL

Fan Cover Assembly - VL2000 Spot (cont.)



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Figure 3-18: Fan Cover Assembly (VL2000)

Color/Gobo/Link Iris Bulkhead Assembly

21.9667.0131 (VL2201) Rev E

21.9673.0131 (VL2000 Spot) Rev A

Refer to Figure 3-19.

No.	Item	Qty.	UM.	Description
1	10.9667.0121	1	EA	HEAT SHIELD
2	10.9667.0124	1	EA	BULKHEAD, IRIS LINK/GOBO/COLOR
3	10.9667.0132	1	EA	IRIS ACTUATOR
4	12.9638.0200	16	EA	BEAM SIZE IRIS LEAF, BLACK COATING SPEC
5	21.9667.0118	1	EA	ASSY, IRIS/GOBO MOTOR
6	21.9667.0119	1	EA	ASSY, COLOR MOTOR
7	22.9667.0144	1	EA	ASSY, GOBO WHEEL (VL2201 ONLY)
	22.9673.0144	1	EA	ASSY, GOBO WHEEL (VL2000 ONLY)
8	22.9667.0145	1	EA	ASSY, FILTER WHEEL (VL2201 ONLY)
	22.9673.0145	1	EA	ASSY, FILTER WHEEL (VL2000 ONLY)
9	25.9667.0146	1	EA	CABLE ASSY, HEAD OT SWITCH #2
10	53.6522.0001	8	EA	SCREW, 6-32 X 1/4" PPZ
11	53.6605.0004	1	EA	STUD, 2-56 X 1.0" LG FULL THREAD STAINLESS STEEL
12	53.6661.0003	4	EA	SCREW, 0-80 X 3/16" LG PFSS
13	54.1209.0003	4	EA	BEARING,.093ID X 3/16OD
14	54.1217.0005	2	EA	KWIK LINK, 2-56 SPRING STEEL
15	55.2186.0002	1	EA	CABLE TIE, .09" WD 3.750" LG TEFZEL
16	55.2203.0001	2	EA	SCREW, 4-40 X 1/4" PPZ
17	55.2233.0003	1	EA	RETAINER, PUSH-ON TYPE
18	55.2233.0004	1	EA	STUD, 1/4 TURN OPR .415L STEEL ZINC
19	55.3303.0004	2	EA	WASHER, #4 LOCK INT.TOOTH SS
20	55.6504.0001	8	EA	WASHER, #6 LOCK EXT TOOTH
21	74.1092.0001	1	EA	SWITCH, THERMAL 235 DEG F OPEN (VL2201 ONLY)
	74.1089.0001	1	EA	SWITCH, THERMAL 15AMP 295 DEGREE F OPEN (VL2000 ONLY)

Color/Gobo/Link Iris Bulkhead Assembly (cont.)

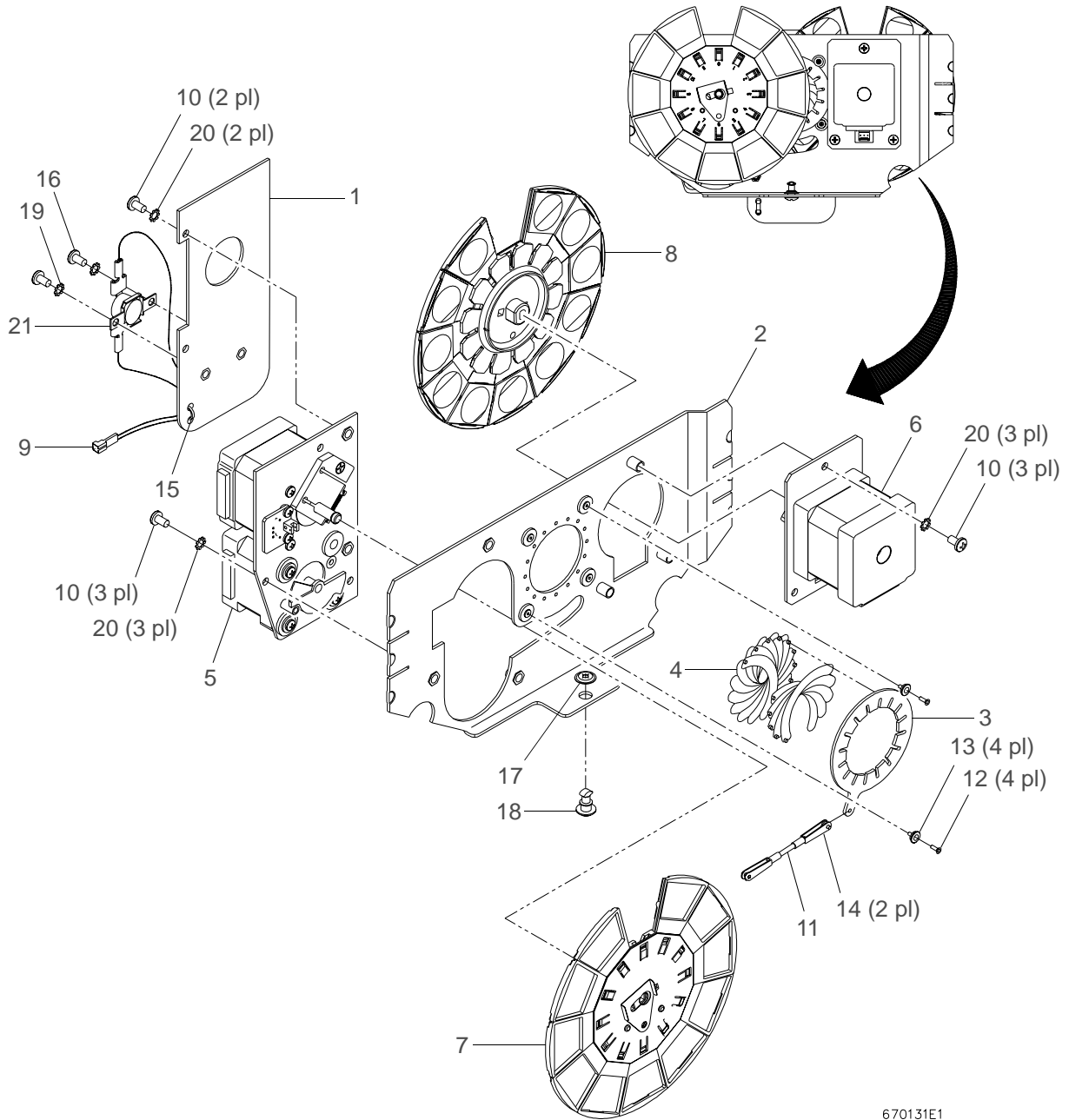


Figure 3-19: Color/Gobo/Link Iris Bulkhead Assembly

Iris/Gobo Motor Assembly

21.9667.0118 Rev F

Refer to Figure 3-20.

No.	Item	Qty.	UM.	Description
1	10.9621.0097	1	EA	STABILIZER, STEPPER, GOBO WHEEL
2	10.9667.0111	1	EA	MOTOR BULKHEAD, IRIS/GOBO
3	10.9667.0126	1	EA	IRIS CRANK
4	24.9638.0113	1	EA	PCB ASSY, SENSOR, VL6B
5	44.9667.0116	1	EA	MOTOR, GOBO/COLOR WHEEL
6	44.9667.0117	1	EA	MOTOR, IRIS
7	53.6513.0021	3	EA	SCREW, M3 X .5 X 8MM LG PPSS METRIC
8	53.6578.0001	1	EA	SCREW, 4-40 X 1/8" SET
9	53.6597.0001	2	EA	SCREW, 4-40 X 3/16" PPZ
10	53.6599.0001	1	EA	SCREW, 4-40 X 3/8" PFZ
11	55.2203.0001	3	EA	SCREW, 4-40 X 1/4" PPZ
12	55.3301.0004	1	EA	WASHER, #4 FLAT SS
13	55.6512.0001	2	EA	WASHER, #4 SPLIT LOCK
14	55.6568.0016	1	EA	SPRING, EXTSN .125" OD .500" LG .018" WIRE DIA SS
15	55.6579.0005	4	EA	GROMMET, 3/8" HOLE 3/16" ID
16	55.6589.0002	1	EA	STANDOFF, 1/4" RND 4-40 .328" FF ALUM
17	55.6595.0004	3	EA	SPACER, 3/16OD X .171L X #4HOLE ALUM.
18	55.6621.0001	3	EA	WASHER, #4 FLAT ZINC

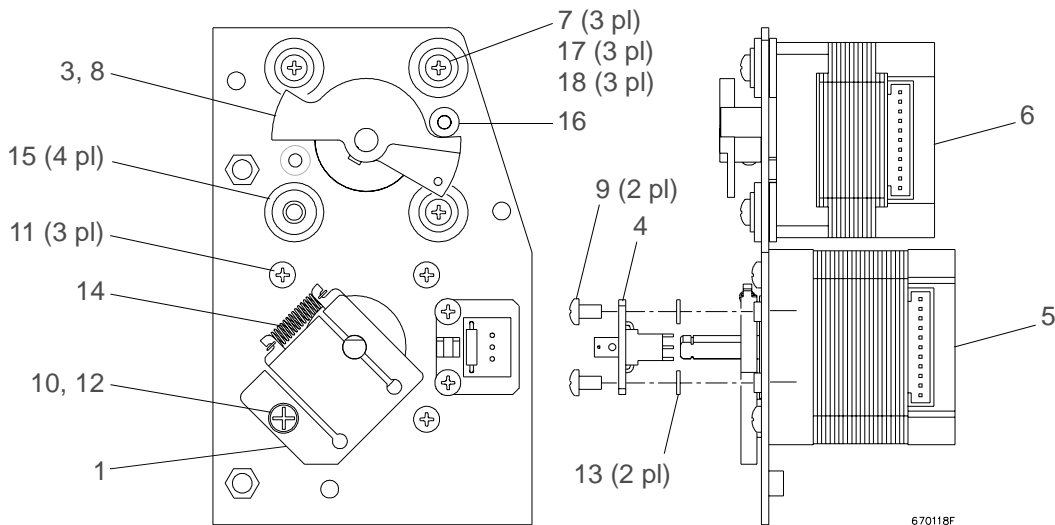


Figure 3-20: Iris/Gobo Motor Assembly

Sensor PCB Assembly

24.9638.0113 Rev B

Refer to Figure 3-21.

No.	Item	Qty.	UM.	Description
1	11.9638.0114	1	EA	PCB, SENSOR, VL6
2	52.6229.0001	1	EA	HEADER, 3POS MTA FRIC LOK STRT POST
3	60.1429.1503	1	EA	RES, 1/4W 5% 150.0 OHM CF
4	86.7004.0001	1	EA	SENSOR, OPTICAL, GP1S23

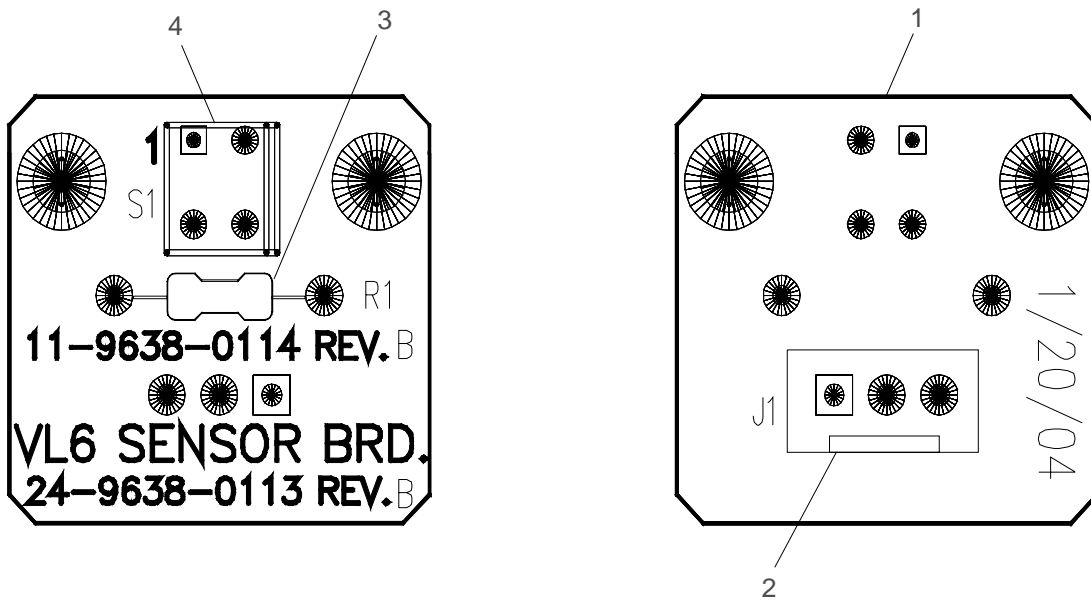


Figure 3-21: Sensor PCB Assembly

Color Motor Assembly

21.9667.0119 Rev D

Refer to Figure 3-22.

No.	Item	Qty.	UM.	Description
1	10.9621.0097	1	EA	STABILIZER, STEPPER, GOBO WHEEL
2	10.9667.0120	1	EA	COLOR MOTOR BULKHEAD
3	24.9638.0113	1	EA	PCB ASSY, SENSOR, VL6
4	44.9667.0116	1	EA	MOTOR, GOBO/COLOR WHEEL
5	53.6597.0001	2	EA	SCREW, 4-40 X 3/16" PPZ
6	53.6599.0001	1	EA	SCREW, 4-40 X 3/8" PFZ
7	55.2203.0001	3	EA	SCREW, 4-40 X 1/4" PPZ
8	55.3301.0004	1	EA	WASHER, #4 FLAT SS
9	55.6512.0001	2	EA	WASHER, #4 SPLIT LOCK
10	55.6568.0016	1	EA	SPRING, EXTSN .125" OD.500" LG .018" WIRE DIA SS

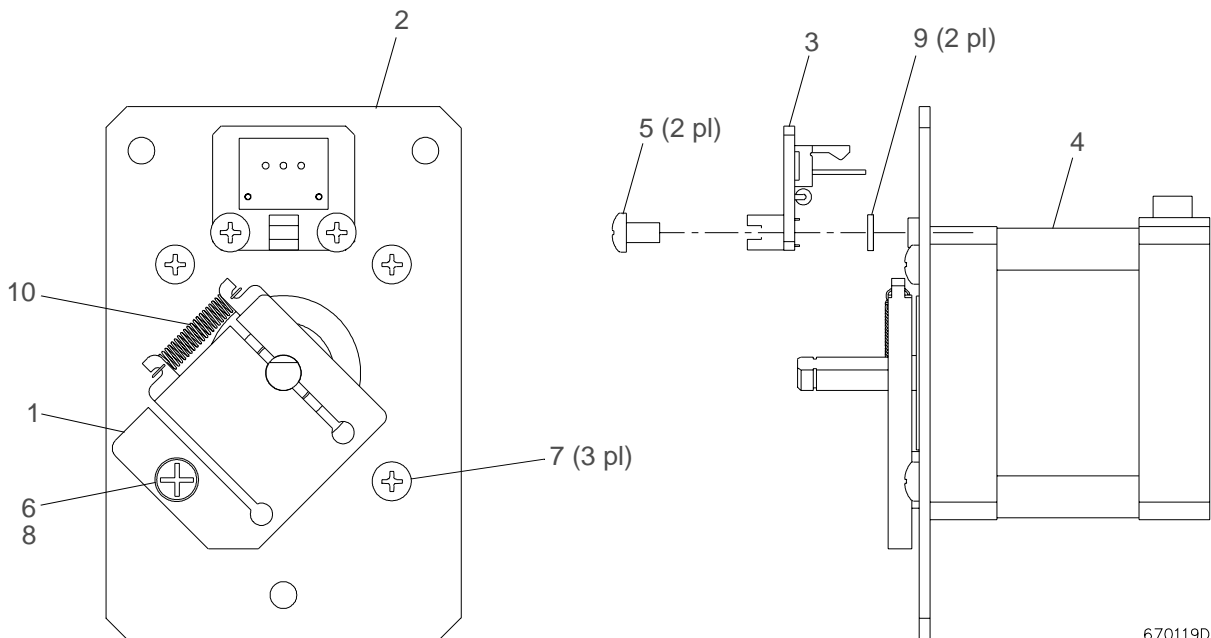


Figure 3-22: Color Motor Assembly

Gobo Wheel Assembly

22.9667.0144 (VL2201) Rev 0

22.9673.0144 (VL2000 Spot) Rev A

Refer to Figure 3-23.

No.	Item	Qty.	UM.	Description																													
1	22.9667.0143	1	EA	ASSY, FILTER WHEEL HUB AND CLIP (VL2201 ONLY)																													
	22.9673.9143	1	EA	ASSY, FILTER WHEEL HUB AND CLIP (VL2000 ONLY)																													
-	10.9638.0122	1	EA	CLIP, WHEEL RETAINER																													
-	22.9667.0142	1	EA	ASSY, COLOR WHEEL (VL2201 ONLY)																													
-	22.9673.9142	1	EA	ASSY, COLOR WHEEL (VL2000 ONLY)																													
-	53.6530.0002	1	EA	RIVET, POP 1/8" OD X .063-.125 GR.LENGTH																													
2	41.6006.4202	1	EA	ASSY, VL6 GOBO, VERTICAL BARS (ST)																													
3	41.6006.5009	1	EA	ASSY, VL6 GOBO LIQUID TEXTURE (P.O.)																													
4	41.6006.5011	1	EA	ASSY, VL6 GOBO, NIGHT SKY (ST)																													
5	41.6006.5501	1	EA	ASSY, VL6 GOBO, LEAVES (ST)																													
6	41.6006.5523	1 <td EA	ASSY, VL6 GOBO, TRIBAL BREAKUP (P.O.)	7	41.6006.6001	1	EA	ASSY, VL6 GOBO, MEDIUM CIRCLE (ST)	8	41.6006.7002	1	EA	ASSY, VL6 GOBO, PEBBLES (ST)	9	41.6006.7008	1	EA	ASSY, VL6 GOBO, WAVE (ST)	10	41.6006.7015	1	EA	ASSY, VL6 GOBO, BLOCK BREAKUP (ST)	11	41.6006.7025	1	EA	ASSY, VL6 GOBO, DUST BREAKUP (CA)	12	41.6006.7029	1	EA	ASSY, VL6 GOBO ALPHA RAYS (P.O.)
7	41.6006.6001	1	EA	ASSY, VL6 GOBO, MEDIUM CIRCLE (ST)																													
8	41.6006.7002	1	EA	ASSY, VL6 GOBO, PEBBLES (ST)																													
9	41.6006.7008	1	EA	ASSY, VL6 GOBO, WAVE (ST)																													
10	41.6006.7015	1	EA	ASSY, VL6 GOBO, BLOCK BREAKUP (ST)																													
11	41.6006.7025	1	EA	ASSY, VL6 GOBO, DUST BREAKUP (CA)																													
12	41.6006.7029	1	EA	ASSY, VL6 GOBO ALPHA RAYS (P.O.)																													

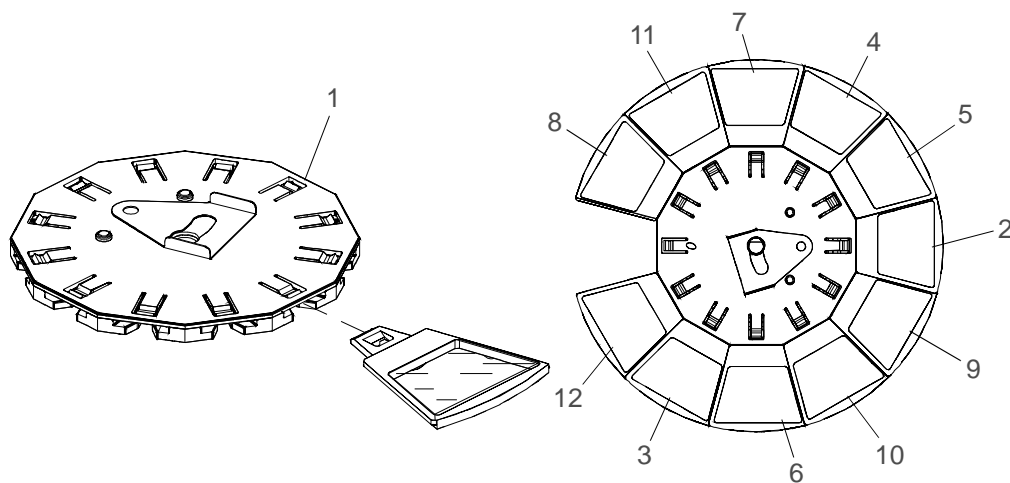


Figure 3-23: Gobo Wheel Assembly

Filter Wheel Assembly

22.9667.0145 (VL2201) Rev 0

22.9673.0145 (VL2000 Spot) Rev A

Refer to Figure 3-24.

No.	Item	Qty.	UM.	Description
1	22.9667.0143	1	EA	ASSY, FILTER WHEEL HUB AND CLIP (VL2201 ONLY)
	22.9673.9143	1	EA	ASSY, FILTER WHEEL HUB AND CLIP (VL2000 ONLY)
-	10.9638.0122	1	EA	CLIP, WHEEL RETAINER
-	22.9667.0142	1	EA	ASSY, COLOR WHEEL (ULTIM) (VL2201 ONLY)
-	22.9673.9142	1	EA	ASSY, COLOR WHEEL MARKED (VL2000 ONLY)
-	53.6530.0002	1	EA	RIVET, 1/8" OD POP .-63-.125 GR. LENGTH
2	41.6006.0020	1	EA	ASSY, VL6 FILTER, MAGENTA (ST)
3	41.6006.0150	1	EA	ASSY, VL6 FILTER, PINK (ST)
4	41.6006.0240	1	EA	ASSY, VL6 FILTER, LIGHT RED (ST)
5	41.6006.0320	1	EA	ASSY, VL6 FILTER, BASTARD AMBER #1 (ST)
6	41.6006.0440	1	EA	ASSY, VL6 FILTER, ORANGE (ST)
7	41.6006.0540	1	EA	ASSY, VL6 FILTER, YELLOW (ST)
8	41.6006.0660	1	EA	ASSY, VL6 FILTER, GREEN (ST)
9	41.6006.0820	1	EA	ASSY, VL6 FILTER, LT.BLUE-GREEN (ST)
10	41.6006.0850	1	EA	ASSY, VL6 FILTER, BLUE (ST)
11	41.6006.0960	1	EA	ASSY, VL6 FILTER, LAVENDER (ST)
12	41.6006.0990	1	EA	ASSY, VL6 FILTER, UV (ST)

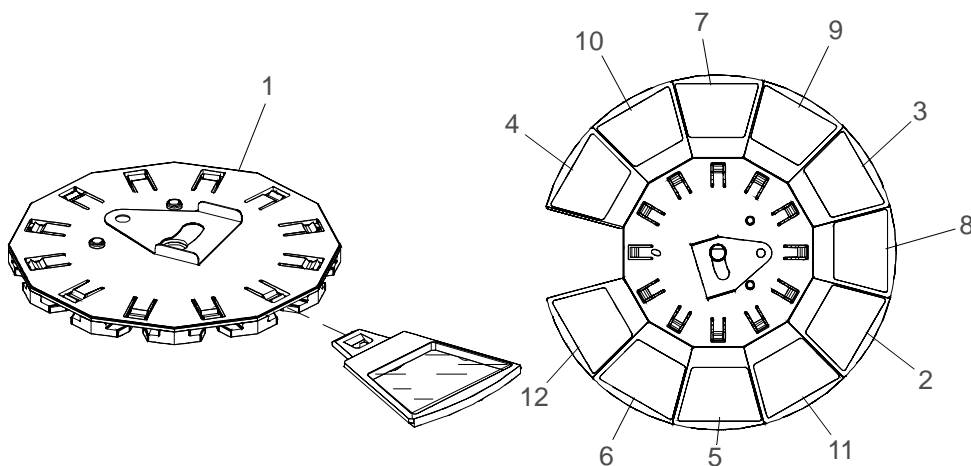


Figure 3-24: Filter Wheel Assembly

Dimmer Bulkhead Assembly

21.9667.0205 (VL2201 ONLY) Rev E

Refer to Figure 3-25.

No.	Item	Qty.	UM.	Description
1	10.9621.0069	1	EA	NUT, LOCK, WHEEL SHAFT
2	10.9621.0102	1	EA	COLLET, LOCK, WHEEL SHAFT
3	10.9638.0039	1	EA	BLADE, DIMMER, VL6
4	10.9638.0151	1	EA	STABILIZER, MOTOR, VL6
5	10.9667.0213	1	EA	DIMMER BULKHEAD
6	23.9667.0216	1	EA	ASSY, OPTICAL SENSOR
7	21.9667.0218	1	EA	ASSY, UV DIMMER HEAT SHIELD (VL2201 ONLY)
	21.9673.0218	1	EA	ASSY, UV DIMMER HEAT SHIELD (VL2000 ONLY)
8	44.5029.0001	1	EA	MOTOR, STEPPER 42MM X 34MM -AR6
9	53.2005.0001	1	EA	NUT, 3/8-32 X 3/32T WHEEL
10	53.6513.0021	3	EA	SCREW, M3 X .5 X 8MM LG PPSS METRIC
11	53.6513.0029	1	EA	SCREW, M3 X .5 X 12MM PFZ METRIC
12	53.6600.0001	2	EA	SCREW, 4-40 X 5/16" PPB
13	53.6608.0003	2	EA	SCREW, 6-32 X 3/16" LG PPZ
14	53.6613.0001	4	EA	SCREW, 6-32 X 1/2" PPZ
15	55.2118.0003	2	EA	WASHER, .750" OD .380" ID .034" THK BELLV SPRN H-CARBON
16	55.3301.0004	2	EA	WASHER, #4 FLAT SS
17	55.3301.0006	3	EA	WASHER, #6 FLAT SS
18	55.6504.0001	4	EA	WASHER, #6 LOCK EXT TOOTH
19	55.6579.0005	4	EA	GROMMET, 3/8" HOLE 3/16" ID
20	55.6595.0004	4	EA	SPACER, 3/16OD X .171L X #4HOLE ALUM.
21	55.6603.0001	1	EA	SPRING, SS 4.6#/IN. EXTENSION
22	55.6818.0002	1	EA	KURLY-LOK, STANDOFF, 45DEG, NYLON 6/6
23	74.1089.0001	1	EA	SWITCH, THERMAL 15AMP 295 DEGREE F OPEN (VL2201 ONLY)
	74.1034.0001	1	EA	SWITCH, THERMAL-VL6 DIMMER BULKHEAD (VL2000 ONLY)

Dimmer Bulkhead Assembly (cont.)

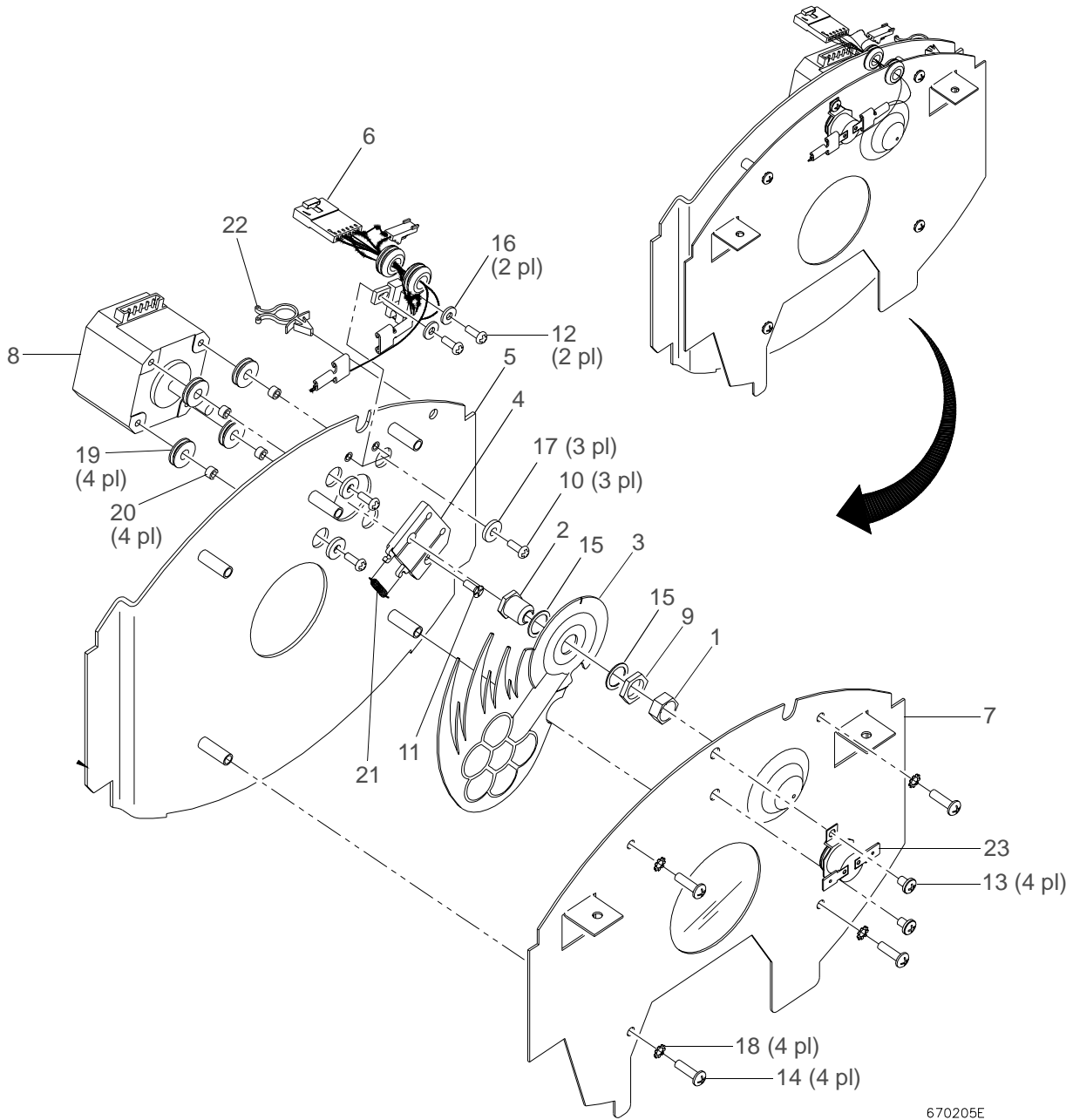


Figure 3-25: Dimmer Bulkhead Assembly

Dimmer Bulkhead Assembly**21.9673.0290 (VL2000 Spot) Rev D**

Refer to Figure 3-26.

No.	Item	Qty.	UM.	Description
1	10.9621.0069	1	EA	NUT, LOCK, WHEEL SHAFT
2	10.9621.0102	1	EA	COLLET, LOCK, WHEEL SHAFT
3	10.9671.0039	1	EA	BLADE, DIMMER (changed 08-21-03)
4	10.9638.0151	1	EA	STABILIZER, MOTOR
5	10.9667.0291	1	EA	DIMMER BULKHEAD
6	21.9667.0293	1	EA	ASSY, UV DIMMER HEATSHIELD
	10.9673.0292	1	EA	DIMMER HEATSHIELD
	41.9637.0047	1	EA	MIRROR,UV BLOCKER
7	23.9667.0216	1	EA	ASSY, OPTICAL SENSOR
8	44.5029.0001	1	EA	MOTOR, STEPPER 42MM X 34MM
9	53.2005.0001	1	EA	NUT, 3/8-32 X 3/32T WHEEL
10	53.6513.0021	3	EA	SCREW, M3 X .5 X 8MM LG PPSS METRIC
11	53.6513.0029	1	EA	SCREW, M3 X .5 X 12MM PFZ METRIC
12	53.6600.0001	2	EA	SCREW, 4-40 X 5/16" PPB
13	53.6608.0003	2	EA	SCREW, 6-32 X 3/16"LG PPZ
14	53.6613.0001	4	EA	SCREW, 6-32 X 1/2" PPZ
15	55.2118.0003	2	EA	WASHER, .750" OD .380" ID .034" THK BELLV SPRN H-CARBON
16	55.3301.0004	2	EA	WASHER, #4 FLAT SS
17	55.3301.0006	3	EA	WASHER, #6 FLAT SS
18	55.6504.0001	4	EA	WASHER, #6 LOCK EXT TOOTH
19	55.6579.0005	4	EA	GROMMET, 3/8"HOLE 3/16"ID
20	55.6595.0004	3	EA	SPACER, 3/16OD X .171L X #4HOLE ALUM.
21	55.6603.0001	1	EA	SPRING, SS 4.6#/IN. EXTENSION
22	55.6818.0002	1	EA	KURLY-LOK, STANDOFF, 45 DEG, NYLON 6/6
23	74.1034.0001	1	EA	SWITCH, THERMAL 315 DEG F OPEN (changed 08-21-03)

Dimmer Bulkhead Assembly (cont.)

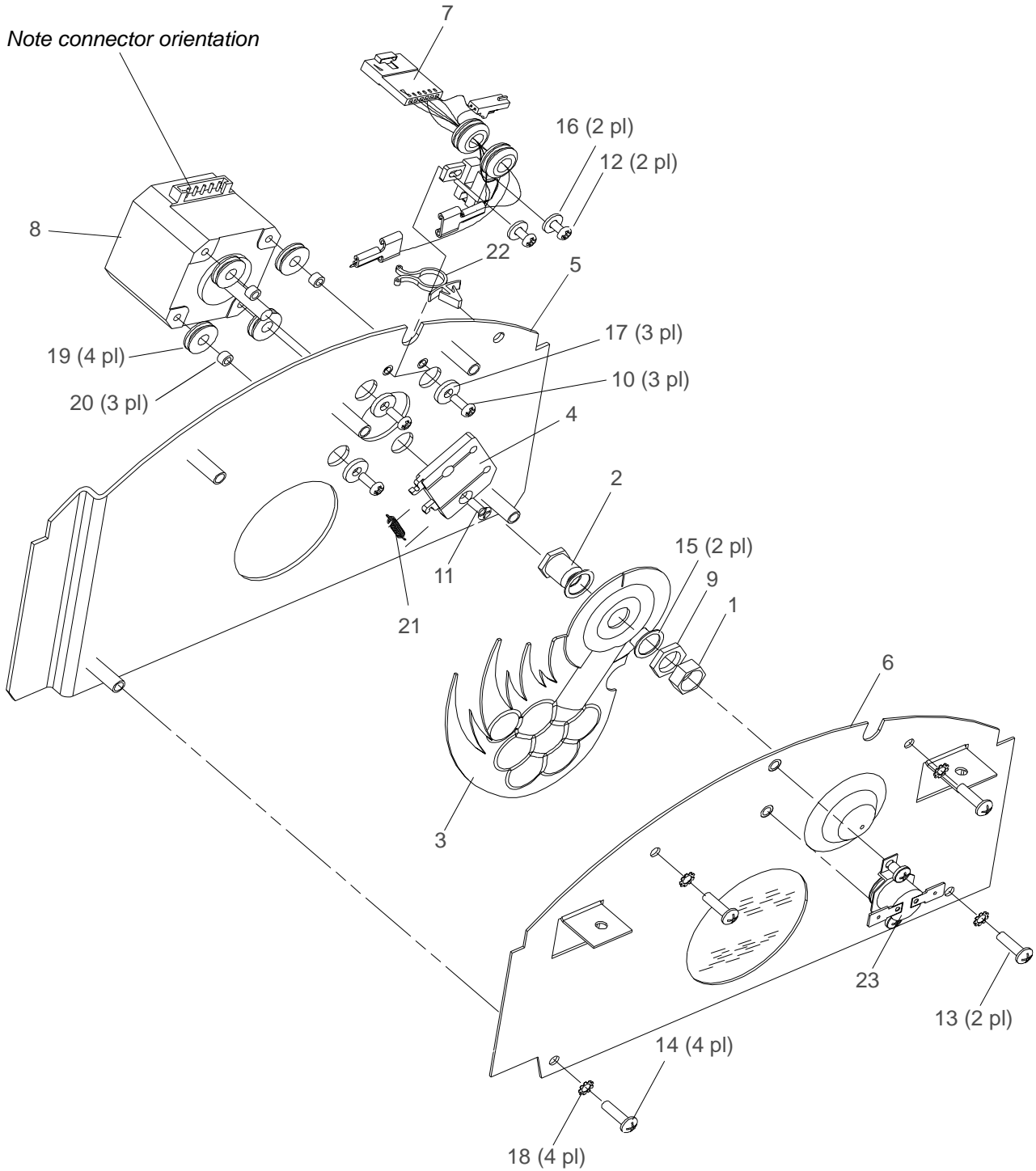


Figure 3-26: Dimmer Bulkhead Assembly

UV Dimmer Heatshield Assembly

21.9667.0218 (VL2201) Rev 0

21.9673.0218 (VL2000 Spot) Rev 0

Refer to Figure 3-27.

No.	Item	Qty.	UM.	Description
1	10.9667.0215	1	EA	DIMMER HEATSHIELD (VL2201 ONLY)
	10.9673.0215	1	EA	DIMMER HEATSHIELD (VL2000 ONLY)
2	41.9637.0047	1	EA	MIRROR, UV BLOCKER

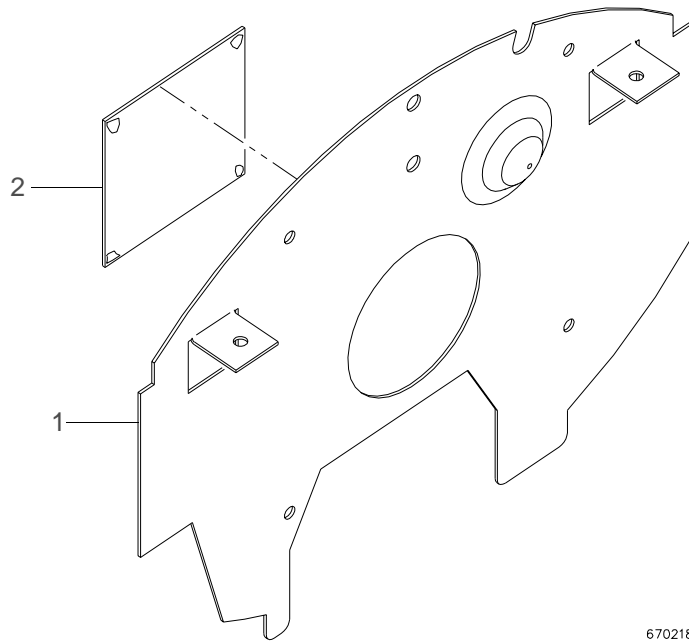


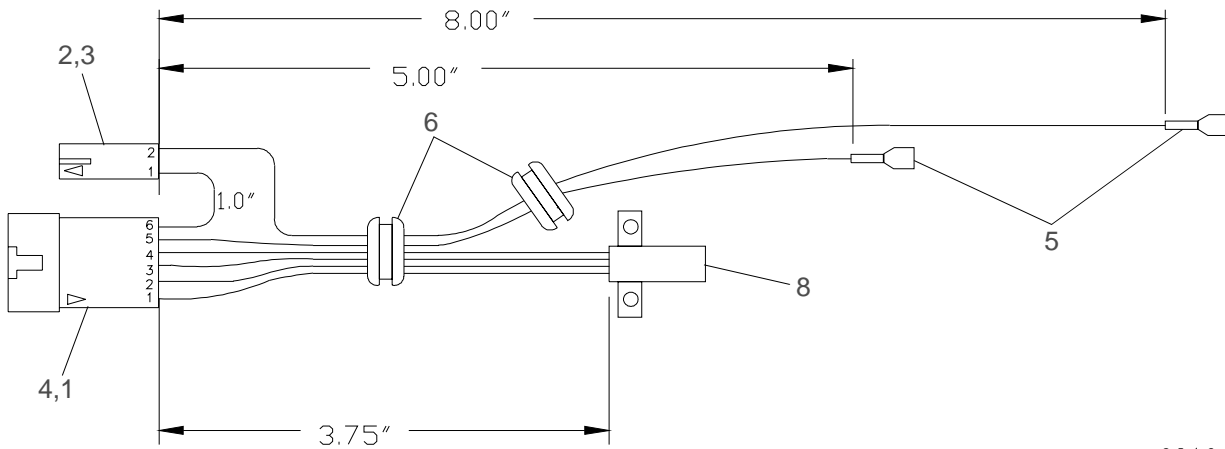
Figure 3-27: UV Dimmer Heatshield Assembly

Optical Sensor Assembly

23.9667.0216 Rev C

Refer to Figure 3-28.

No.	Item	Qty.	UM.	Description
1	52.6523.0006	1	EA	CONN, HOUSING 6POS PLUG SHROUDED WIRE TO WIRE
2	52.6524.0002	1	EA	CONN, HOUSING 2POS RECEPTACLE
3	52.8346.0001	2	EA	CONTACT, 24-30AWG FEMALE CRIMP
4	52.8347.0001	6	EA	CONTACT, 24-30AWG MALE CRIMP
5	52.8371.0001	2	EA	RECEPT, FASTON 24-20AWG UNISUL TIN PLT BRS .250 X .032 TAB
6	55.6706.0001	2	EA	GROMMET, 9/32" ID 9/16" OD 1/4T SILICONE RED
7	73.6224.0005	1	EA	WIRE, 24AWG 600V 200C TFE GRN UL1213 CSA
8	86.7002.0003	1	EA	SWITCH, SLOTTED OPTICAL



0216

Figure 3-28: Optical Sensor Assembly

Yoke**Yoke Assembly****22.9667.0600 Rev F**

Refer to Figure 3-29.

No.	Item	Qty.	UM.	Description
1	21.9667.0659	1	EA	ASSY, COUNTERWEIGHT
-	- 10.9667.0657	1	EA	PLATE, MOUNT -VL2201 YOKE COUNTERWEIGHT
-	- 10.9667.0658	1	EA	COUNTERWEIGHT, YOKE
-	- 53.2200.0010	2	EA	NUT, 10-32 KEPS SS
-	- 53.6514.0001	2	EA	SCREW, 10-32 X 1 1/4" PPB
2	22.9667.0605	1	EA	FAB ASSY, YOKE STRUCTURE
3	23.9650.3327	1	EA	ELEC ASSY, RELAY
-	- 04.9650.0044	1	EA	LABEL, RELAY WIRING -VL7
-	- 52.8271.0005	2	EA	RECP, FASTON 1/4" 16-14 AWG INS. (REEL)
-	- 66.4510.0002	1	EA	RELAY, 20A 250VAC DPDT UL/CSA/VDE
-	- 82.4307.4002	1	EA	DIODE, 1N4002 RECTIFIER
4	24.9661.1126	1	EA	PCB ASSY, SOLID STATE IGNITOR (added 04-02-03)
5	24.9661.1400	2	EA	PCB ASSY, AUX CONTROLLER
-	25.9667.0030	1	EA	CABLE ASSY, IGNITOR TO RELAY (not shown)
6	52.6498.0014	1	EA	CONN, 14-POS DUAL ROW 1.11" TH .650" .230"
7	53.6525.0001	12	EA	SCREW, 6-32 X 5/16" PPZ
8	55.3301.0006	2	EA	WASHER, #6 FLAT SS
9	55.6538.0001	18	EA	WASHER, #6 LOCK INTERNAL TOOTH
10	55.6541.0002	2	EA	GROMMET, 1" ID 1 3/4" OD 1 3/8" GRV DIA RUBBER
11	55.6583.0001	2	EA	STANDOFF, 1/4" HEX 6-32 .500" LG ALUM
12	55.6658.0009	4	EA	STANDOFF, 1/4" HEX 6-32 .750" LG MF SS
13	55.6669.0014	4	EA	STANDOFF, 1/4" HEX 6-32 5/8" LG MF SS

Yoke Assembly (cont.)

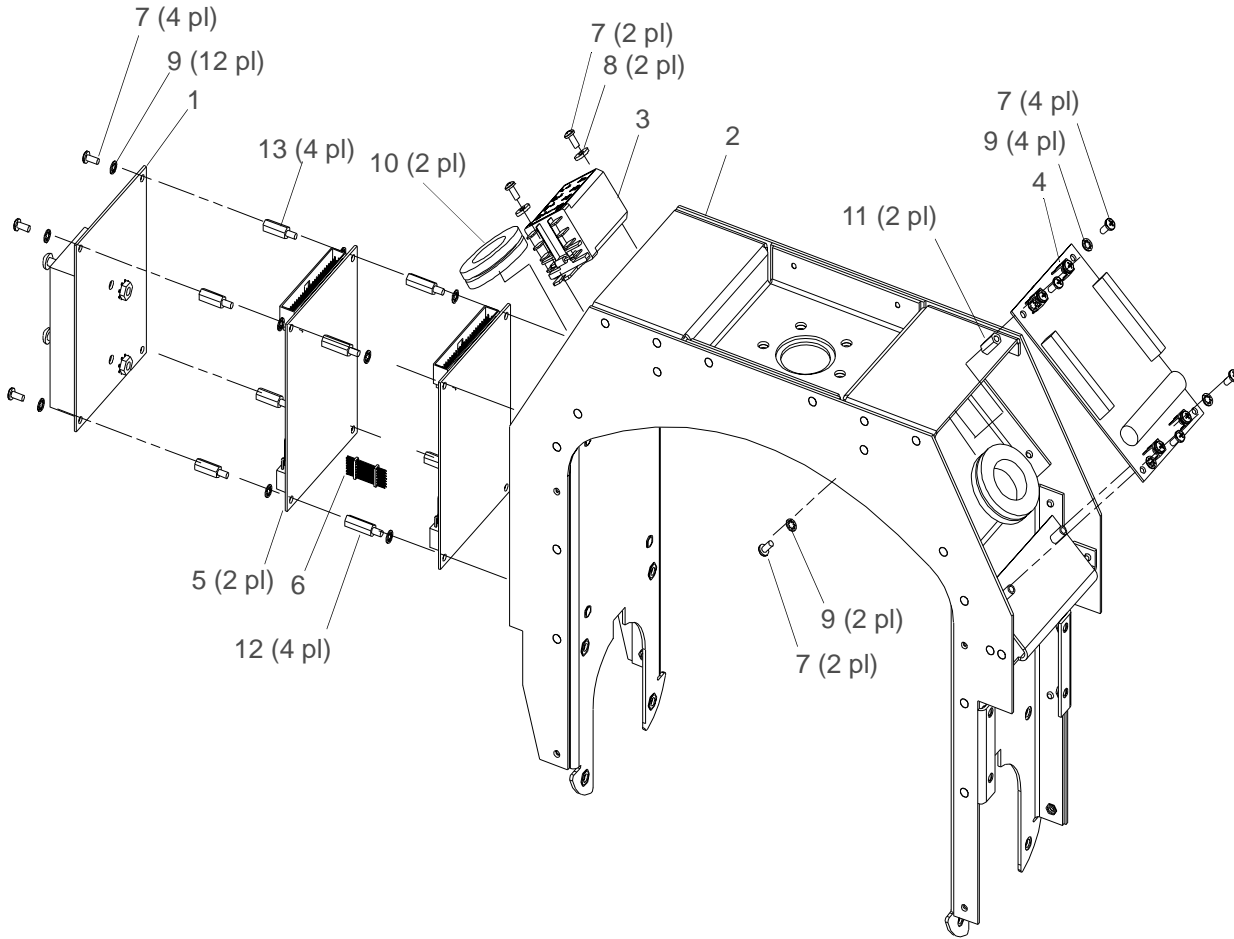


Figure 3-29: Yoke Assembly

Counterweight Assembly

21.9667.0659 Rev A

Refer to Figure 3-30.

No.	Item	Qty.	UM.	Description
1	10.9667.0657	1	EA	PLATE, MOUNT -VL2201 YOKE COUNTERWEIGHT
2	10.9667.0658	1	EA	COUNTERWEIGHT, YOKE
3	53.2200.0010	2	EA	NUT, 10-32 KEPS SS
4	53.6514.0001	2	EA	SCREW, 10-32 X 1 1/4" PPB

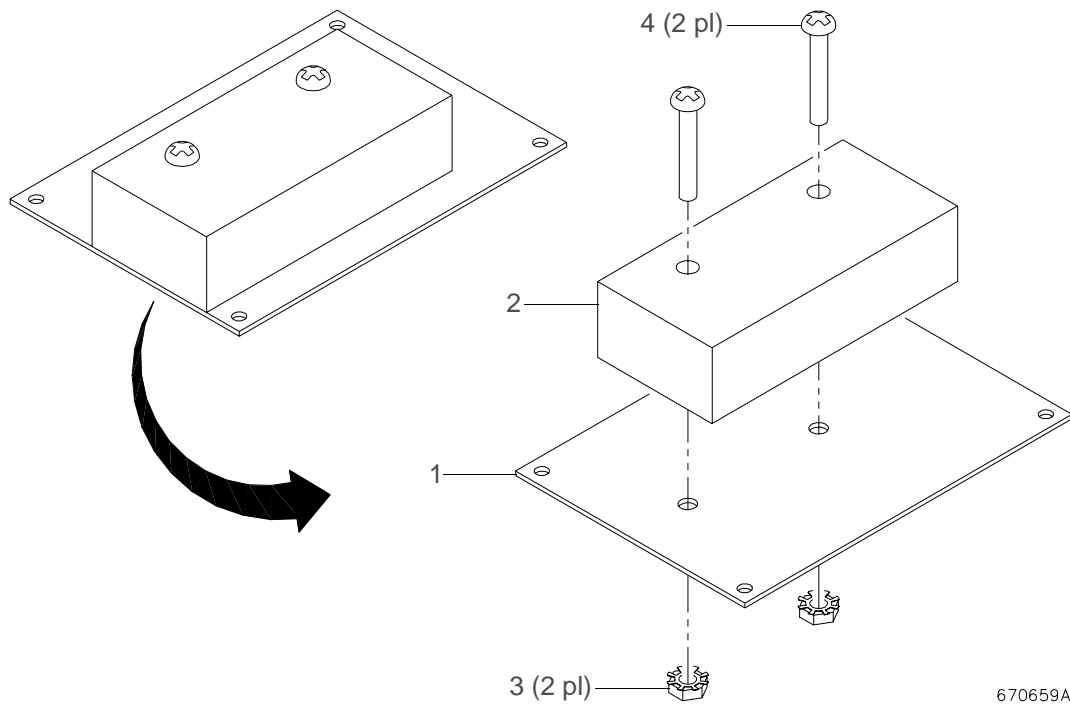


Figure 3-30: Counterweight Assembly

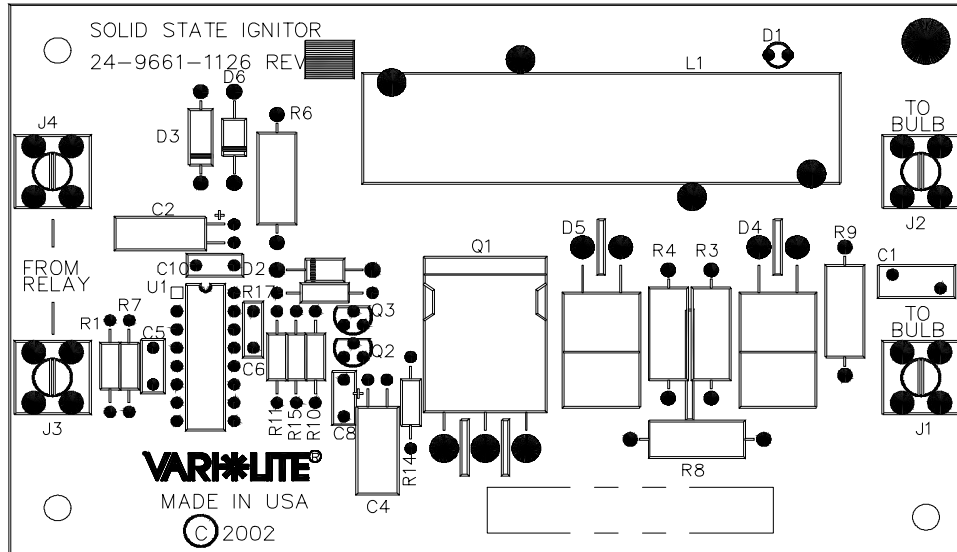
Ignitor PCB Assembly

24.9661.1126 Rev B (Formerly 24.9661.1125 Rev D)

Refer to Figure 3-31.

No.	Item	Qty.	UM.	Description	Ref
1	11.9661.1126	1	EA	PCB, IGNITOR	
2	52.8218.0002	4	EA	TERM, PC VERT MNT 6-32 SCREW 15A	J1-J4
3	60.1230.6493	1	EA	RESISITOR, 1/4W 1% 6.49K OHM	
4	60.1420.5104	1	EA	RESISITOR, 1/4W 5% 51.0K OHM	R1
5	60.1421.1205	1	EA	RESISITOR, 1/4W 5% 120.0K OHM	R7
6	60.1422.2001	1	EA	RESISITOR, 1/4W 5% 2.0K OHM	R15
7	60.1424.1005	1	EA	RESISITOR, 1/4W 5% 10.0K OHM	R17
8	60.1426.1003	1	EA	RESISITOR, 1/4W 5% 100.0K OHM	R10
9	60.1431.1007	1	EA	RESISITOR, 1/4W 5% 10.0K OHM	
10	60.3430.5104	1	EA	RES, 1W 5% 51.0K OHM, METAL OXIDE	R6
11	60.3430.5600	2	EA	RES, 1W 5% 5.6 OHM, METAL OXIDE	
12	60.3430.8205	2	EA	RES, 1W 5% 820.0K OHM, METAL OXIDE	R3, R4
13	62.3021.2101	1	EA	CAPACITOR, 100PF 200V RAD CER 10%	C6
14	62.3021.2330	1	EA	CAPACITOR, 330PF RAD CER 5%	C5
15	62.3023.0104	2	EA	CAPACITOR, 0.1UF 50V RAD CER 20%	C8, C10
16	62.3035.0102	1	EA	CAPACITOR, 1000PF 3KV 10% RAD CER	C1
17	62.4010.0106	1	EA	CAPACITOR, 10UF 50V RAD ALUM	C2
18	62.4010.0475	1	EA	CAPACITOR, 4.7UF 50V RAD ALUM	C4
19	68.9661.1117	1	EA	COIL, SOLID STATE IGNITOR	L1
20	71.2564.0001	1	EA	LIGHT, NEON, STD BRIGHTNESS	D1
21	80.2623.0001	1	EA	TRANSISTOR, 2N4401 NPN 40V	Q2
22	80.2623.0003	1	EA	TRANSISTOR, 2N4403 PNP 40V	Q3
23	80.2657.0001	1	EA	TRANSISTOR, BIMOSFET IXBH16N17	
24	82.4308.4937	1	EA	DIODE, 1N4937, FAST	D3
25	82.4332.0001	2	EA	DIODE, MUR8100E 1000V 8A	D4, D5
26	82.5351.0001	1	EA	DIODE, ZENER 20V 1W 5% DO-41	D2
27	82.5373.0001	1	EA	DIODE, ZENER 1N5955B 180V 3W	D6
28	83.3212.0001	1	EA	IC, MC14536B PROGRAMMABLE TIMER	U1

Ignitor PCB Assembly (cont.)



VIEWED FROM COMPONENT SIDE

Figure 3-31: Ignitor PCB Assembly

Aux Controller PCB Assembly

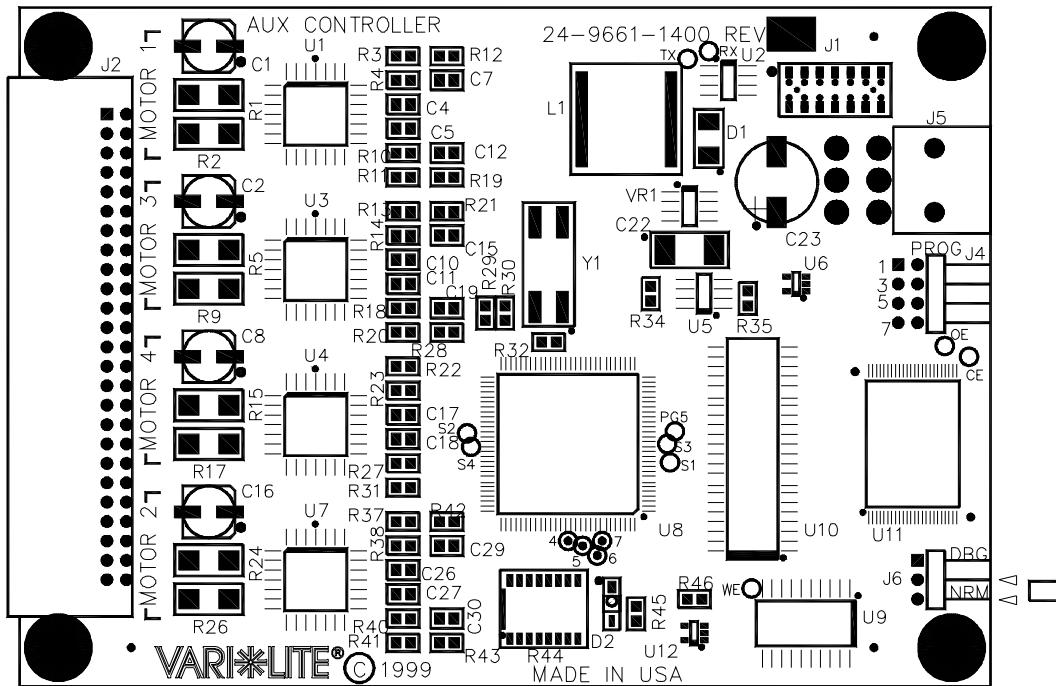
24.9661.1400 Rev J

Refer to Figure 3-32.

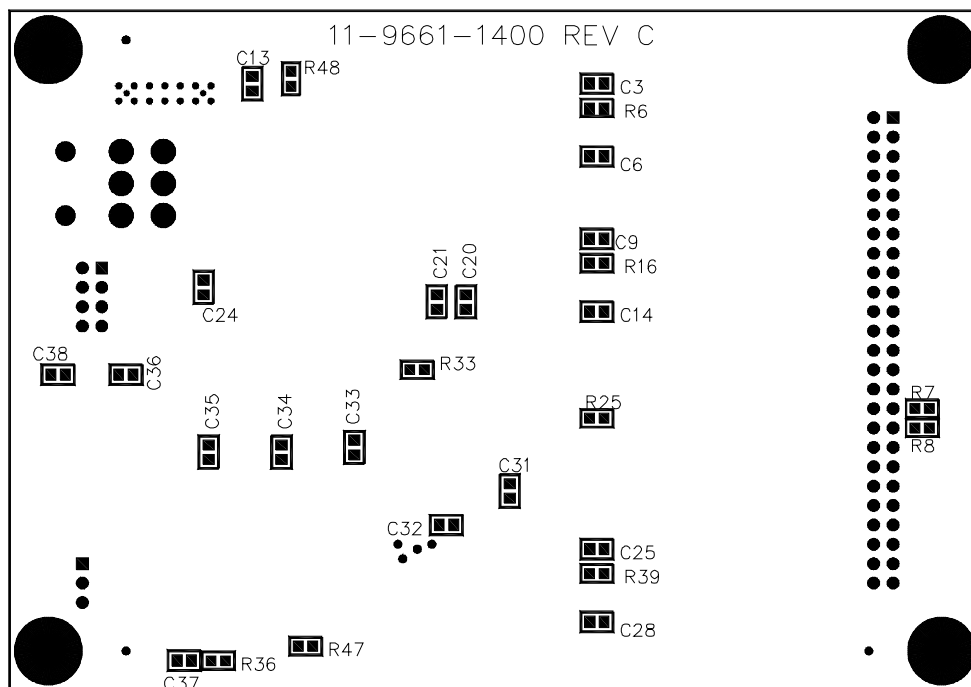
No.	Item	Qty.	UM.	Description	Ref.
1	11.9661.1400	1	EA	PCB, AUX CONTROLLER	
2	52.6399.0001	1	EA	JUMPER, PROGRAMMING	X16
3	52.6499.0007	1	EA	CONN, 14POS DUAL ROW 2MM SOCKET STRIP FEED THRU	J1
4	52.6578.0006	1	EA	HEADER, 6CIR RT ANG DUAL ROW W/PEGS TIN PLT	J5
5	52.6590.0003	1	EA	HEADER, 3PIN SGL ROW R/A .025" SQ PST	J6
6	52.6591.0008	1	EA	HEADER, 8PIN DBL ROW R/A .025" SQ PST	J4
7	52.6611.0010	1	EA	HEADER, 50POS DBL ROW SHROUDED .025SQ RT ANG	J2
8	60.3242.1000	8	EA	RES, 1W 1% 1.0 OHM WW SUR MT	R1, R2, R5, R9, R15, R17, R24,R26
9	60.9460.1003	2	EA	RES, .1W 5% 1.0 K 100V CHIP THICK FILM SMT0805	R29, R48
10	60.9460.1004	7	EA	RES, .1W 5% 10.0 K 100V CHIP THICK FILM	R30, R33- R36, R46, R47
11	60.9460.1802	2	EA	RES, .1W 5% 180.0 OHM 100V CHIP SUR MT	R7, R8
12	60.9460.3303	1	EA	RES, .1W 5% 3.3 K 100V CHIP THICK FILM	R45
13	60.9460.7505	1	EA	RES, .1W 5% 750.0 K 100V CHIP THICK FILM	R32
14	60.9461.1504	6	EA	RES, .1W 1% 15.0 K 100V CHIP THK FLM SMT0805	R6, R16, R22, R25, R31, R39
15	60.9461.2433	8	EA	RES, .1W 1% 2.4 K 100V CHIP THK FLM SMT0805	R4, R10, R14, R18, R23, R27, R38, R40
16	60.9461.7503	12	EA	RES, .1W 1% 7.5 K 100V CHIP THK FLM SMT0805	R3, R11-R13, R19-R21, R28, R37, R41-R43
17	61.4817.1004	1	EA	RES NET, 10K .08W 50V 5% SUR MT	R44
18	62.3009.0472	4	EA	CAP, 4700PF 50V 10% MONO CER CHIP SUR MT	C5, C11, C18, C27

No.	Item	Qty.	UM.	Description	Ref.
19	62.3009.0473	12	EA	CAP, .047UF 50V 10% MONO CER CHIP SUR MT	C3, C6, C7, C9, C12, C14, C15, C19, C25, C28, C29, C30
20	62.4000.0105	14	EA	CAP, .1UF 50V 20% CER CHIP SUR MT Z5U EIA0805	C4, C10, C13, C17, C24, C26, C31-C38
21	62.4000.0200	2	EA	CAP, 20PF 50V 5% CER CHIP SUR MT COG EIA0805	C20, C21
22	62.4205.0107	1	EA	CAP, 100UF 10V 20% SUR MT	C22
23	62.4225.0107	1	EA	CAP, 100UF 35V 20% ALUM ELECTRO SUR MT	C23
24	62.4228.0106	4	EA	CAP, 10UF 50V 20% ALUM ELECTRO SUR MT	C1, C2, C8, C16
25	64.4016.0506	1	EA	CRYSTAL, 16MHZ SUR MT	Y1
26	68.4566.0001	1	EA	INDUCTOR, 173UH PE-53819S LCI-37 SUR MT	L1
27	82.5325.0001	1	EA	DIODE, MBRS130LT3 SCHOTTKY SUR MT	D1
28	83.3163.0001	1	EA	IC, MC34164D-5 SENSING CIRCUIT UNDERVOLTAGE SURFACE MOUNT	U5
29	83.3173.0005	1	EA	IC, LM2594M-5 150KHZ 0.5A STEP-DOWN VOLTAGE REGULATOR	VR1
30	84.0068.0812	1	EA	IC , MC68HC812A4PV8 (UNPRGMMD) 16BIT MICROCONTROLLER	U8
31	84.4234.0002	1	EA	IC, RS485 TRANSCEIVER SUR MT SOIC PKG	U2
32	84.4263.0001	1	EA	IC, AD7302BR 8-BIT DAC 2.7-5.5V PARALLEL INPUT DUAL VOLTAGE OUTPUT	U9
33	84.4270.0001	1	EA	IC, NC7S08M5 SINGLE AND GATE SUR MT	U12
34	84.4285.0001	1	EA	IC, NC7S04M5 HS INVERTER	U6
35	85.3773.0001	4	EA	IC, STEPMOTOR DRIVER	U1, U3, U4, U7
36	87.7247.0001	1	EA	IC, AM29F200BT FLASH MEMORY 5V	U11
37	87.7302.00XX	1	EA	INSTALLER DISK SET, BURNER VL2000 LUMINAIRE	
38	88.8130.0001	1	EA	LED, GREEN SUR MT WATER CLEAR LENS (REEL)	D2

Aux Controller PCB Assembly (cont.)



TOP VIEW



BOTTOM VIEW

611400J

Figure 3-32: Aux Controller PCB Assembly

Tilt Motor Assembly

22.9661.0610 Rev D (Formerly 22.9661.0665 Rev E)

Refer to Figure 3-33.

No.	Item	Qty.	UM.	Description
1	10.9661.1298	1	EA	PLATE, TENSION ADJUST, PAN MOTOR
2	22.9661.0608	1	EA	ASSY, DRIVE PULLEY
-	- 10.9661.0640	1	EA	CODEWHEEL, 90 COUNT
-	- 10.9661.0649	1	EA	TIMING PULLEY, 2MM GT, 17 TOOTH
-	- 53.5561.0250	2	EA	SCREW, 6-40 X 1/4" SET CONE POINT
3	23.9661.1253	1	EA	ELEC ASSY, PAN EOT SENSOR
-	- 52.6524.0006	1	EA	CONN, HOUSING 6-POS RECEPTACLE
-	- 52.8346.0001	4	EA	CONTACT, 24-30 AWG FEMALE CRIMP
-	- 86.7002.0003	1	EA	SWITCH, SLOTTED OPTICAL
4	24.9661.0629	1	EA	PCB ASSY, PAN/TILT ENCODER
5	44.5034.0001	1	EA	MOTOR, STEPPER, 42 X 40 10 OHM
6	53.2203.0001	2	EA	SCREW, 4-40 X 1/4" PPZ
7	53.5506.0625	4	EA	SCREW, 6-32 X 5/8 " PPSS
8	55.6512.0001	2	EA	WASHER, #4 SPLIT LOCK
9	53.6520.0001	2	EA	SCREW, 4-40 X 3/8" PPZ
10	55.6621.0001	4	EA	WASHER, #4 FLAT ZINC

Tilt Motor Assembly (cont.)

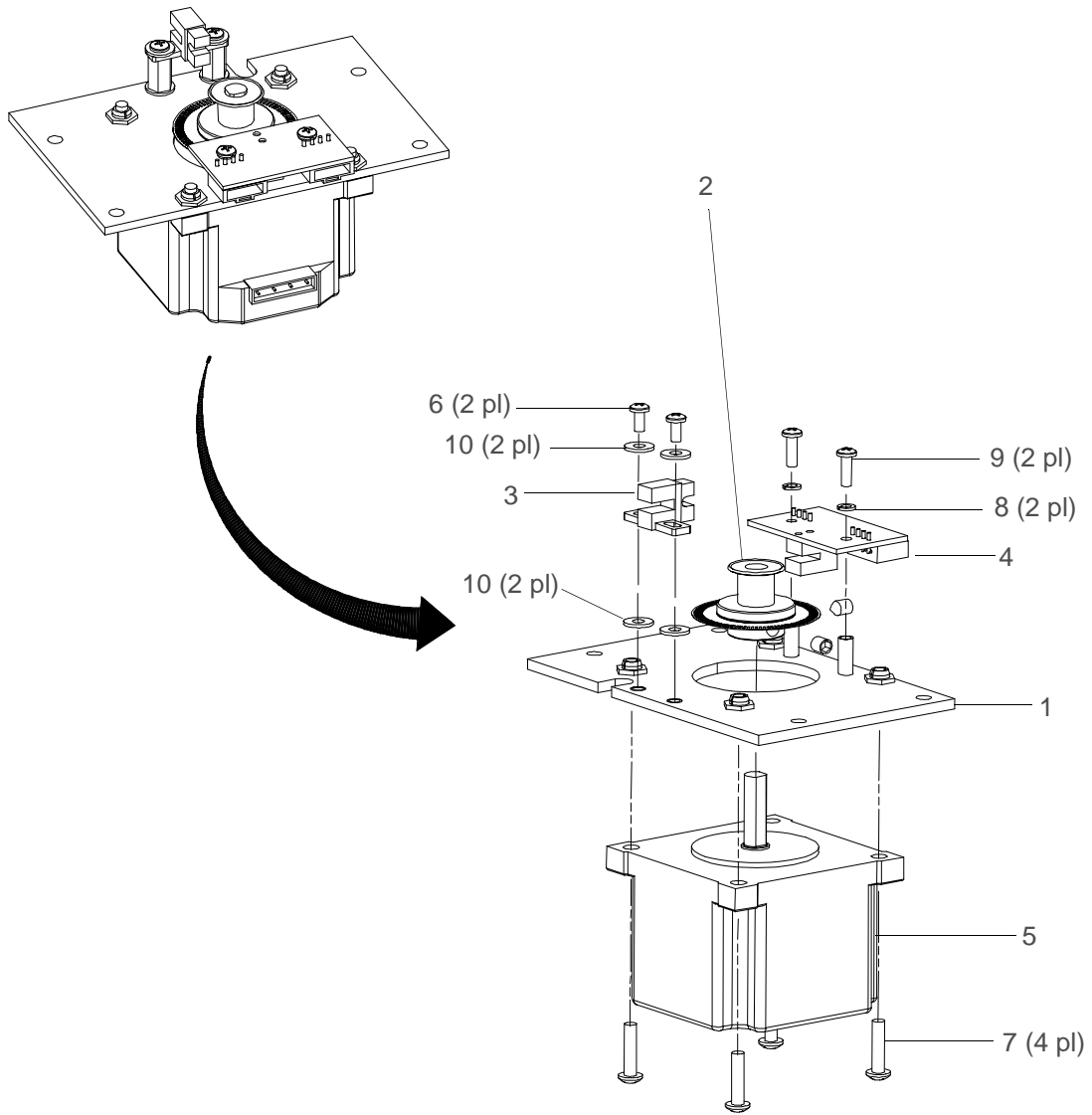


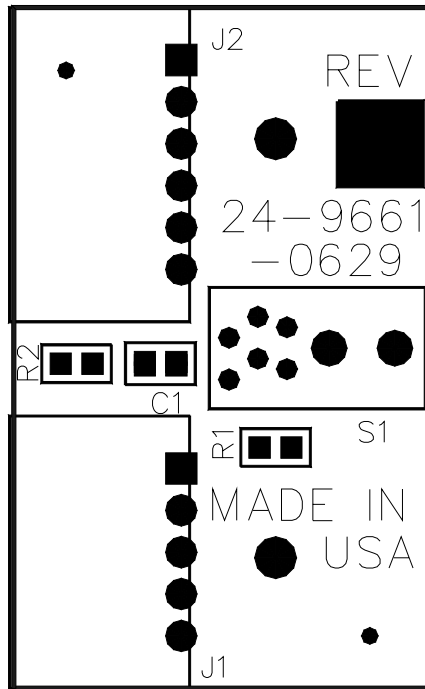
Figure 3-33: Tilt Motor Assembly

Pan/Tilt Encoder PCB Assembly

24.9661.0629 Rev 0

Refer to Figure 3-33.

No.	Item	Qty.	UM.	Description	Ref.
1	11.9661.0629	1	EA	PCB, ENCODER SENSOR	
2	52.6613.0005	1	EA	HEADER, 5POS SGL ROW SHROUDED LATCHING	J1
3	52.6613.0006	1	EA	HEADER, 6POS SGL ROW SHROUDED LATCHING	J2
4	60.9460.1802	2	EA	RES, .1W 5% 180.0 OHM 100V CHIP SUR MT	R1, R2
5	62.3009.0103	1	EA	CAP, .01UF 50V 10% MONO CER CHIP SUR MT	C1
6	86.7009.0001	1	EA	IC, GP1A70R OPIC PHOTOINTERRUPTER	S1



610629

Figure 3-33: Pan/Tilt Encoder PCB Assembly

Enclosure

Top Upper Enclosure Assembly

21.9661.0004.04 (VL2201) Rev V

21.9661.0004.05 (VL2000 Spot) Rev DD

Refer to Figures 3-34 and 3-35.

No.	Item	Qty.	UM.	Description
1	04.9640.0374	1	EA	LABEL, P.E. GROUND
2	04.9661.0040	1	EA	LABEL, 2000 SERIES COMPLIANCE (VL2201 ONLY)
	04.9673.0040	1	EA	LABEL, COMPLIANCE (VL2000 ONLY)
3	04.9661.1218.01	1	EA	LABEL, PATENT, VL2201 & VL2400 SERIES LUMINAIRES
4	10.9640.0002	2	EA	PAD, CHOKE
5	10.9661.0670	1	EA	BRACKET, STABILIZER, SLOTTED
6	10.9661.0671	1	EA	BRACKET, STABILIZER, NO SLOT
7	10.9661.1258	1	EA	BRACKET, APS SIDE
8	10.9661.1352	1	EA	DUCT, UPPER ENCLOSURE AIR (VL2201 ONLY)
	10.9673.1352	1	EA	DUCT, W/HOLE-UPPER ENCLOSURE AIR (VL2000 ONLY)
9	10.9661.1354	1	EA	AIR SEAL, UPPER ENCLOSURE
10	10.9661.1358	1	EA	AIR SEAL, DUCT
11	10.9661.1360	1	EA	INSULATOR, BUCK CHOKE UPPER ENCLOSURE
12	10.9661.1361	2	EA	INSULATOR, CHOKE PFC UPPER ENCLOSURE
13	10.9661.1362	2	EA	PAD, CHOKE PFC NOTCHED (VL2201 ONLY)
14	10.9661.1366	1	EA	INSULATOR, ADHESIVE BACKED -PFC CHOKE (VL2201 ONLY)
15	69.3174.0130	1	EA	POWER SUPPLY, 130W +24V/5.4A @18 CFM
16	12.9661.0657	1	EA	TILT DAMPER, 2400 YOKE STRUCTURE
17	12.9661.1236	2	EA	MACHINED, COVER FRONT
18	12.9661.1238	2	EA	MACHINED, COVER SIDE
19	21.9661.1205	1	EA	ASSY, CONNECTOR PANEL
20	21.9661.1208	1	EA	ASSY, PAN TUBE
21	21.9661.1254	1	EA	ASSY, COVER -VENTILATION
-	10.9661.1249		EA	POST, TRUSS HOOK
-	10.9661.1350		EA	COVER, VENTILATION - VL2000
-	10.9661.1357		EA	AIR SEAL, UPPER ENCLOSURE
-	54.1206.0015		EA	RING, RETAINING PRESS-ON 1" SHAFT
22	21.9661.1365	2	EA	ASSY, TOP COVER

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No.	Item	Qty.	UM.	Description
-	10.9661.1239		EA	COVER, TOP
-	10.9661.1364		EA	INSULATOR, ADHESIVE BACKED - TOP COVER
23	21.9661.1210	1	EA	ASSY, PAN MOTOR
24	22.9661.1351	1	EA	FAB ASSY, UPPER ENCLOSURE
25	23.9661.1277	1	EA	ASSY, BALLAST MODULE-400W ARC POWER SUPPLY (VL2201 ONLY)
	23.9671.1250	1	EA	ASSY, BALLAST MODULE-700W ARC POWER SUPPLY (VL2000 ONLY)
26	23.9661.1535	1	EA	FAN ASSEMBLY, LOW SPEED (VL2201 ONLY)
	23.9661.1534	1	EA	FAN ASSEMBLY, HIGH SPEED (VL2000 ONLY)
-	40.7125.0002	1	EA	FAN, 24V
-	52.6396.2602	1	EA	RECEPT, 2 POS MTA100 W/POL TAB BLUE CLSD END
	25.9661.1512	1	EA	CABLE ASSY, AC INPUT LINK (not shown)
	25.9661.1513	1	EA	CABLE ASSY, AC INPUT SPLITTER (not shown)
	25.9661.1514	1	EA	CABLE ASSY, LVS CHASSIS GND (not shown)
	25.9667.1516.01	1	EA	CABLE ASSY, MAIN - AUX/DATA & PWR (not shown)
	25.9661.1517.01	1	EA	CABLE ASSY, PAN/TILT CONTROL -2201 (not shown)
	25.9661.1520	1	EA	CABLE ASSY, CHASSIS TO YOKE GND (not shown)
	25.9661.1532	1	EA	CABLE ASSY, DATA I/O LINK -VL2400 (not shown)
	25.9661.1551.01	1	EA	CABLE ASSY, LAMP SUPPLY XPIQ (not shown)
	25.9667.0029	1	EA	CABLE ASSY, LAMP SUPPLY TO RELAY (not shown)
27	46.6003.0001	1	EA	MOUNTING DISC, METAL 60MM DIA (VL2201 ONLY)
28	46.6004.0001	1	EA	MOUNTING DISC, METAL 90MM DIA
29	53.2002.0003	1	EA	NUT, 6-32 HEX ZINC NYLON INSERT
30	53.2200.0006	2	EA	NUT, 6-32 KEPS SS
31	53.6563.0001	1	EA	SCREW, 10-32 X 2" PPB
32	53.6517.0001	4	EA	SCREW, 10-32 X 3/8" PPZ
33	53.6543.0001	4	EA	SCREW, 6-32 X 3/8" PPB
34	53.6545.0003	3	EA	SCREW, 8-32 X 3/8" PFZ
35	53.6545.0004	2	EA	SCREW, 8-32 X 3/8" PPZ
36	53.6558.0001	13	EA	SCREW, 6-32 X 3/8" PPZ
37	53.6558.0010	4	EA	SCREW, 6-32 X 1/4" LG PPZ BLACK SEMS-EXT WASHER
38	53.6594.0003	1	EA	SCREW, 10-32 X 1-1/2" PPZ
39	53.6607.0001	4	EA	SCREW, 6-32 X 1/4" PPB
40	53.6608.0003	2	EA	SCREW, 6-32 X 3/16" LG PPZ
41	53.6609.0001	6	EA	SCREW, 6-32 X 3/8" PFZ
42	53.6610.0003	4	EA	SCREW, 6-32 X 7/16" PPZ
43	53.6614.0003	1	EA	SCREW, 6-32 X 5/8" PFZ

No.	Item	Qty.	UM.	Description
44	53.6627.0001	4	EA	SCREW, 10-32 X 5/8" PPB
45	53.6653.0502	4	EA	SCREW, 1/4-20 X 1/2" LG SOC HD CAP ZINC
46	54.2039.0001	1	EA	BELT, GT TIMING 2MM PITCH 182GRV 9MM WD NYL CVRD FBRGLS NEOP
47	55.2030.0001	2	EA	PCB SUPPORT, 3/8" COMBO STACKING SPACER
48	55.2179.0003	1	EA	SADDLE, CABLE .75 X .75" ADH BACK, WHITE
	55.2180.0002	0.17	FT	SPIRAL WRAP, 3/8" OD TEFLON (not shown)
49	55.2267.0001	2.00	FT	RUBBER STRIP, SPONGE CLSD CELL 3/8" W 3/16" THK ADHV BACK
50	55.3303.0010	4	EA	WASHER, #10 .438" OD .040" THK SPLIT LOCK SS
51	55.6512.0006	2	EA	WASHER, #6 SPLIT LOCK SS
52	55.6549.0001	4	EA	WASHER, 1/4" SPLIT LOCK
53	55.6568.0046	1	EA	SPRING, BLUE EXTSN .120" OD .50" LG .020" WIRE DIA SS
54	55.6627.0001	8	EA	WASHER, #6 SPLIT LOCK
55	55.6677.0041	1	EA	WASHER, #10 .750" OD .203" ID .040"THK FLAT SS (VL2000 ONLY)
56	55.6695.0002	1	FT	HEATSHRINK, 3/8" ADHESIVE WALL
57	55.6775.0009	1	EA	BUSHING, SNAP .750" ID 1" MT HOLE NYLON BLACK
58	10.9678.0846	2	EA	HANDLE, CAST ENCLOSURE
59	67.4017.0001	1	EA	CORCOM LINE FILTER, LIMITED LEAKAGE CURRENT, 8A 250VAC, MEDICAL (VL2201 ONLY)
	67.4015.0001	1	EA	FILTER, EMI 16A 250V SINGLE PHASE (VL2000 ONLY)
60	68.4580.0001	1	EA	CHOKER, PFC POTTED 700W (VL2000 ONLY)
61	68.9661.1113	1	EA	CHOKER, BUCK, 3.15MH, 4" CORE 12 AWG WIRE (VL2000 ONLY)
	68.9661.1123	1	EA	CHOKER, BUCK 400/625W ARC BALLAST (VL2201 ONLY)
62	68.9661.1124	1	EA	CHOKER, 400/625W PFC (VL2000 ONLY)
	12.9671.0505	1	EA	MODIFIED, CHOKER POTTED 700W APS (VL2000 ONLY)

Top Upper Enclosure Assembly (cont.)

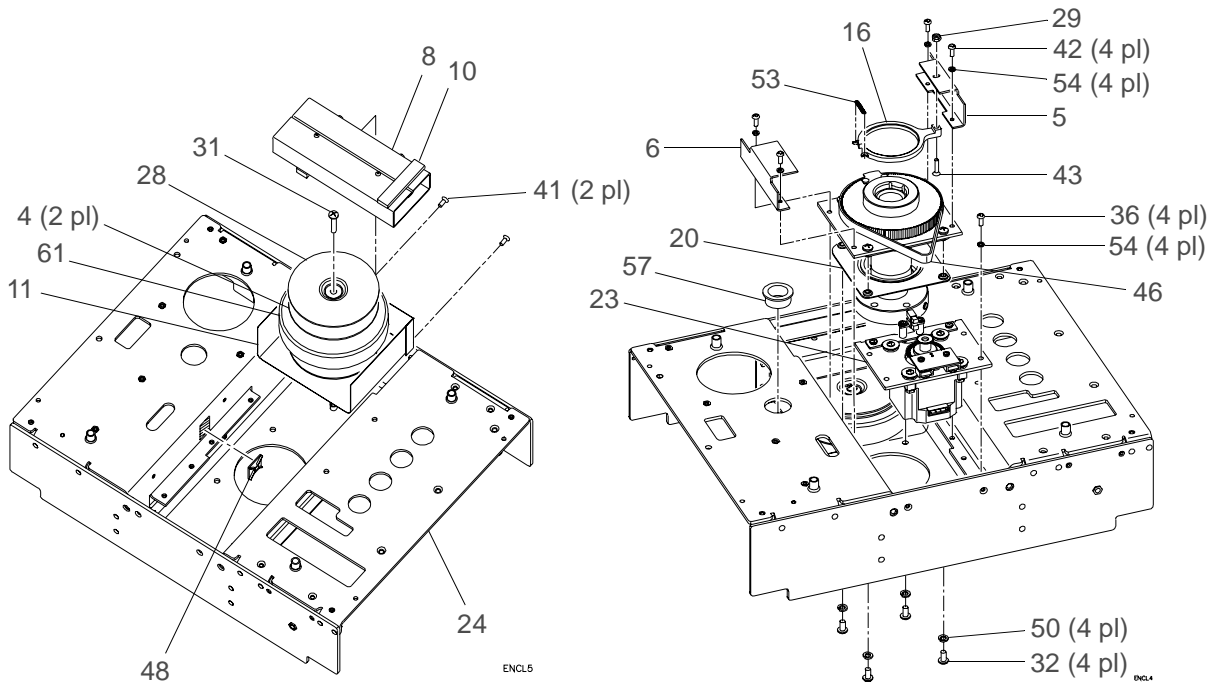
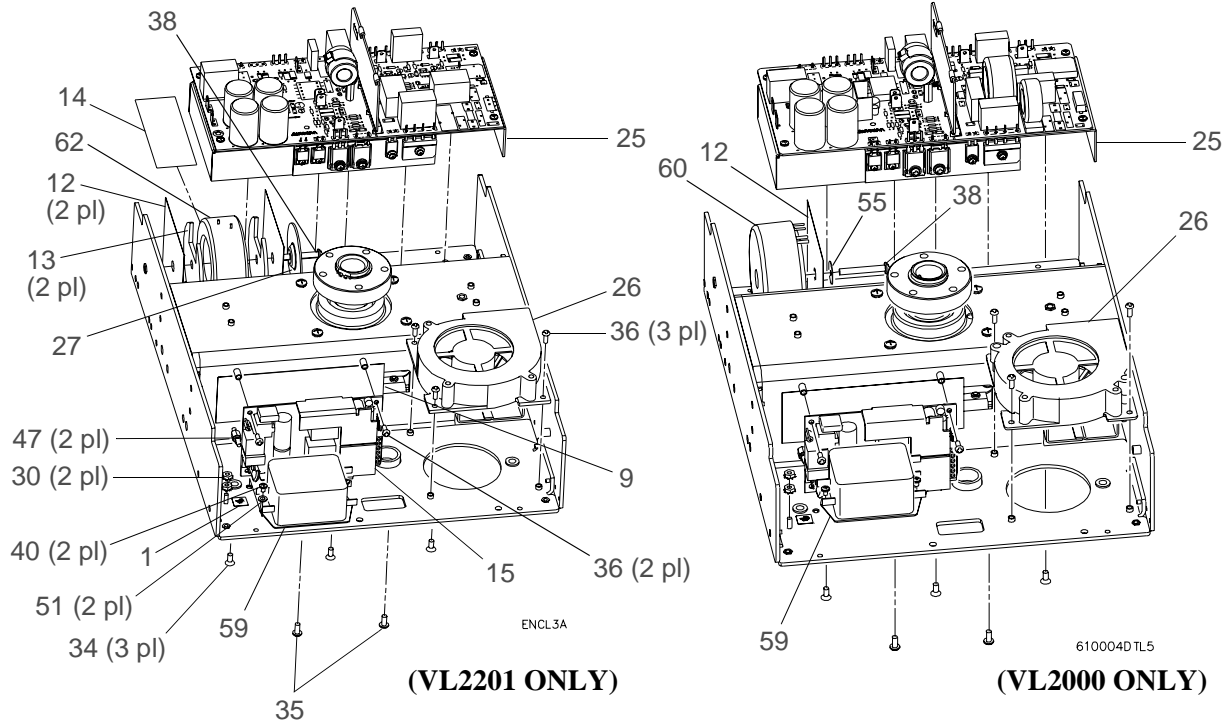


Figure 3-34: Top Upper Enclosure Assembly (bottom views)

Top Upper Enclosure Assembly (cont.)

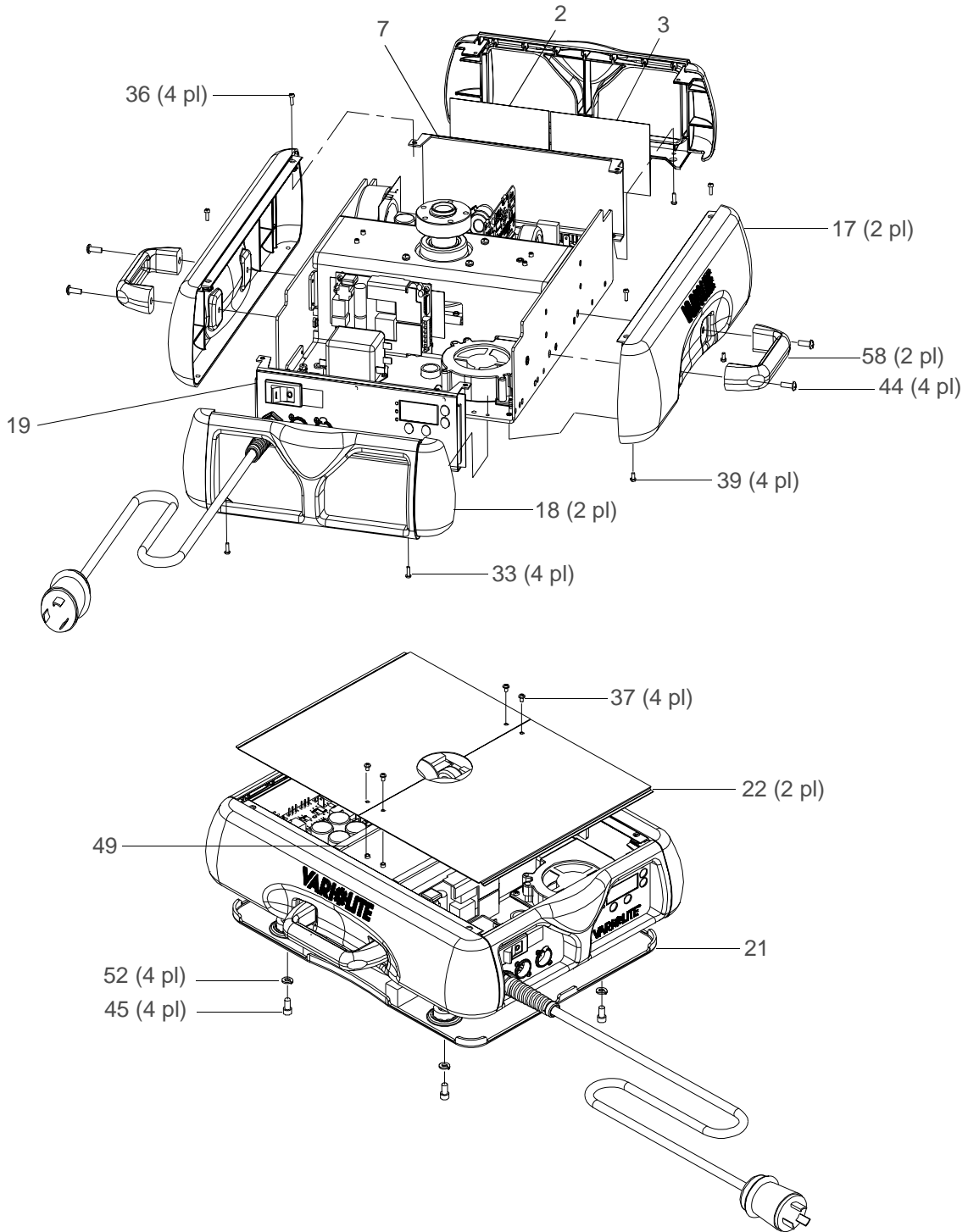


Figure 3-35: Top Upper Enclosure Assembly (top views)

Connector Panel Assembly

21.9661.1205 Rev E

Refer to Figure 3-36.

No.	Item	Qty.	UM.	Description
1	10.9661.1252	1	EA	LAYOUT, ENCLOSURE OVERLAY
2	10.9661.1259	1	EA	BRACKET, INPUT
3	24.9661.1225	1	EA	PCB ASSY, MAIN CONTROLLER 3-PHASE
4	24.9661.1251	1	EA	PCB ASSY, DMX INPUT
5	25.9661.1511	1	EA	CABLE ASSY, AC INPUT PIGTAIL (EURO) -VL8
6	53.6513.0019	4	EA	SCREW, M3 X 5MM LG PPB METRIC
7	53.6525.0001	2	EA	SCREW, 6-32 X 5/16" PPZ
8	55.2253.0001	1	EA	CARD GUIDE, SNAP-IN 6" LONG NYLON NATURAL
9	70.3744.1150	1	EA	C-BREAKER, 15.0A 240V HORIZ 1-0 NON-ILLUM

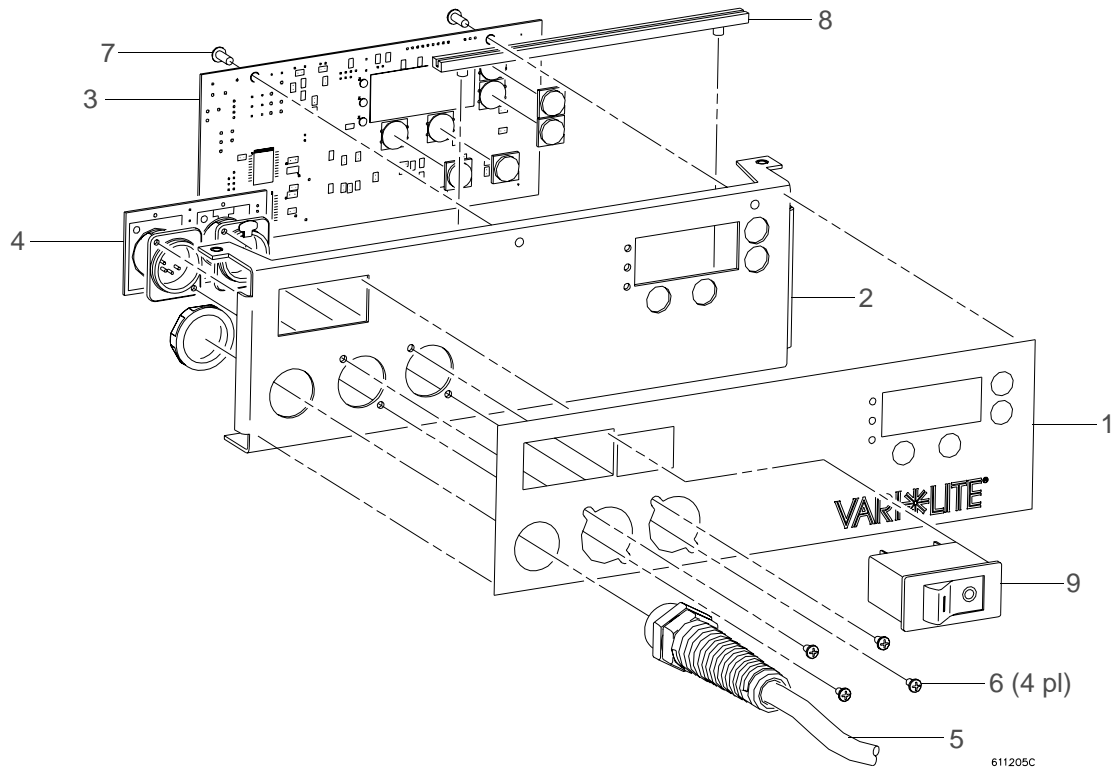


Figure 3-36: Connector Panel Assembly

Main Controller 3-Phase PCB Assembly

24.9661.1225 Rev R

Refer to Figure 3-37.

No.	Item	Qty.	UM.	Description	Ref.
1	10.9661.1275	1	EA	HEATSINK, MAIN CONTROLLER	
2	11.9661.1225	1	EA	PCB, MAIN CONTROLLER 3PHASE	
3	52.6284.0001	1	EA	HEADER, 4POS MTA FRCT LOK STRT POST	J7
4	52.6296.0001	1	EA	HEADER, 8POS MTA FRCT LOK STRT POST	J2
5	52.6297.0001	2	EA	HEADER, 2PIN MTA FRCT LOK STRT POST	J3 & J4
6	52.6399.0001	1	EA	JUMPER, PROGRAMMING	XJ1 & XJ11
7	52.6583.0004	1	EA	HEADER, 4 CIR DUAL ROW W/O PEGS .165" CTRS	J6
8	52.6583.0006	1	EA	HEADER, 6 CIR DUAL ROW W/O PEGS .165" CTRS	J5
9	52.6592.0005	1	EA	HEADER, 5PIN SGL ROW VERT .1" PITCH SHROUDED	J10
10	52.6593.0004	1	EA	HEADER, 2PIN DBL ROW VERT MT 2X2 PIN .025" SQ PIN	J11
11	52.6615.0020	1	EA	CONN, HEADER 20POS DBL ROW SHROUDED STRAIGHT	J9
12	52.6628.0008	1	EA	HEADER ASSY, 8 POS RT ANG DBL ROW W/ HOLD-DOWN MOD	J8
13	52.6629.0003	1	EA	HEADER ASSY, 3 POS RT ANG SGL ROW W/ HOLD-DOWN MOD	J1
14	52.8390.0001	24	EA	CONTACT, SOCKET RND PLATED (AUGAT HOLTITE)	
15	53.5504.0187	2	EA	SCREW, 4-40 X 3/16" PPSS	
16	60.4500.4703	2	EA	RES, .1W 5% 4.7 K CHIP THK FLM SMT	R38 & R40
17	60.9460.1001	2	EA	RES, .1W 5% 10.0 OHM 100V CHIP THICK FILM	R39 & R43
18	60.9460.1003	7	EA	RES, .1W 5% 1.0 K 100V CHIP THICK FILM SMT0805	R16, R17, R23, R29, R31, R33 & R41
19	60.9460.1004	22	EA	RES, .1W 5% 10.0 K 100V CHIP THICK FILM	R1-R9, R11, R18, R19, R22, R24, R25, R30, R35, R36 & R44-R47
20	60.9460.5602	6	EA	RES, .1W 5% 560.0 OHM 100V CHIP THK FILM SUR MT	R10, R12-R15 & R21
21	60.9460.7505	1	EA	RES, .1W 5% 750.0 K 100V CHIP THICK FILM	R20
22	60.9461.1003	2	EA	RES, .1W 1% 1.0 K 100V CHIP THK FLM SMT0805	R27 & R28
23	60.9461.7323	2	EA	RES, .1W 1% 7.32 K 100V CHIP THK FLM SMT0805	R26 & R32
24	60.9471.0200	2	EA	RES, 2W 1% 0.2 OHM POWER METAL STRIP SUR MT	R34 & R42

VARILITE*® - VL2000™ SPOT LUMINAIRE SERVICE MANUAL**

No.	Item	Qty.	UM.	Description	Ref.
25	62.2104.3826	1	EA	CAP, 82UF 35V RAD ALUM 6.3 X 15MM 20% LOW ESR	C22
26	62.4000.0105	19	EA	CAP, .1UF 50V 20% CER CHIP SUR MT Z5U EIA0805	C1-C14, C17-C20 & C24
27	62.4000.0200	4	EA	CAP, 20PF 50V 5% CER CHIP SUR MT COG EIA0805	C15, C16, C23 & C27
28	62.4003.0102	2	EA	CAP, 1000PF 50V 10% CER CHIP SUR MT X7R EIA0805	C43 & C44
29	62.4003.0104	6	EA	CAP, 0.1UF 50V 10% CER CHIP SUR MT X7R EIA0805	C25, C26, C36 & C39-C41
30	62.4005.0101	2	EA	CAP, 100PF 50V 10% CER CHIP SUR MT COG 0805	C28 & C29
31	62.4205.0107	1	EA	CAP, 100UF 10V 20% SUR MT	C21
32	62.4206.0105	2	EA	CAP, 1UF 16V 10% TANT CHIP SUR MT EIA-A	C33 & C37
33	62.4209.0224	2	EA	CAP, .22UF 50V 10% TANT CHIP SUR MT	C34 & C38
34	62.4210.0103	2	EA	CAP, .01UF 50V 10% MONO CER CHIP SUR MT	C32 & C35
35	62.4210.0104	1	EA	CAP, .1 UF 50V 10% CER CHIP SUR MT	C42
36	62.4225.0107	2	EA	CAP, 100UF 35V 20% ALUM ELECTRO SUR MT	C30 & C31
37	63.2032.0001	4	EA	VARISTOR, PTC 250V 145MA RADIAL TR250	PTC1-PTC4
38	64.4016.0506	1	EA	CRYSTAL, 16MHZ SUR MT	Y1
39	68.4566.0001	1	EA	INDUCTOR, 173UH PE-53819S LCI-37 SUR MT	L1
40	70.3738.0001	1	EA	FUSE HOLDER, F/FUSE 70.3738.1001	F1
41	70.3742.0002	1	EA	FUSE, POLY 60V MAX 40A MAX IH=.40A IT=.80A @ 20 DEG C	PTC5
42	73.7051.0001	1	EA	WIRE, 22AWG, BUSS (added 04-23-03)	XR37
43	74.1047.0001	1	EA	SWITCH, KEY SUR MT	S6
44	74.1085.0001	4	EA	SWITCH, 12MM TACT MOM N/O	S1, S2, S4 & S5
45	74.1085.0011	4	EA	CAP, SWITCH 8MM SQ GREY -TL1100160Q	XS1, XS2, XS4 & XS5
46	74.1094.0001	1	EA	SWITCH, MERCURY TILT METAL TYPE	S3
47	75.7105.0805	6	EA	TVS, 6VOLT 0805 SMT	VR2-VR7
48	82.4322.0001	1	EA	DIODE, TVS ZENER 1.5SMC27AT3 27V 40A SMT	D5
49	82.5325.0001	1	EA	DIODE, MBRS130LT3 SCHOTTKY SUR MT	D4
50	82.5326.0001	6	EA	DIODE, DL4148CT RECTIFIER	D6-D11
51	82.5331.0001	4	EA	DIODE, P6KE13CA TVS ZENER 13V	Z1-Z4
52	82.5360.0001	2	EA	DIODE, BAV199LT1 SWITCHING 70V 215MA	D12 & D13
53	83.3173.0005	1	EA	IC, LM2594M-5 150KHZ 0.5A STEP-DOWN VOLTAGE REGULATOR	VR1
54	83.3189.0001	1	EA	IC, OPA2340VA OP AMP SINGLE SUPPLY RAIL TO RAIL	U19
55	84.0068.0812	1	EA	IC, MC68HC812A4PV8 (UNPRGMMD) 16BIT MICROCONTROLLER	U14
56	84.4234.0002	3	EA	IC, RS485 TRANSCEIVER SUR MT SOIC PKG	U18, U24 & U25
57	84.4264.0001	1	EA	IC, TC551664AJ 64K X 16 STATIC RAM	U4
58	84.4270.0001	1	EA	IC, NC7S08M5 SINGLE AND GATE SUR MT	U5
59	84.4288.0001	1	EA	IC, MAX6314US44D3-T MICROPROCESSOR RESET CIRCUIT	U15

No.	Item	Qty.	UM.	Description	Ref.
60	84.4291.0001	1	EA	IC, ST16C550CQ48 UART RCVR/TRSMTR W/ 16 BYTE FIFO	U2
61	84.4305.0001	1	EA	IC, NC7SZ04M5 UHS INVERTER -SMT	U22
62	84.4306.0001	1	EA	IC, NC7SZ08M5 UHS 2-INPUT AND GATE	U23
63	84.7408.0014	1	EA	IC, 74AC14SC HEX INVERTER W/SCHMITT TRIGGER INPUT 14PIN SOIC	U1
64	84.7411.0007	1	EA	IC, HPR400 DC-DC CONVTR. 5V 3KV ISOLATED	U11
65	84.7426.0001	1	EA	IC, SN74HC04D HEX INVERTER	U17
66	85.5163.0001	1	EA	IC, LS7266R1-S ENCODER TO MICROPROCESSOR INTERFACE CHIP	U6
67	85.5164.0001	2	EA	IC, L6234PD THREE PHASE MOTOR DRIVER	U20 & U21
68	86.6105.0001	3	EA	IC, HCPL-0600 OPTO COUPLER SMD	U9, U10 & U16
69	87.7247.0001	1	EA	IC, AM29F200BT FLASH MEMORY 5V	U13
	87.7302.00XX	1	EA	INSTALLER DISK SET, BURNER VL2000 LUMINAIRES (not shown)	
70	88.8123.0002	1	EA	LED, YEL, HP, 1719	D3
71	88.8123.0003	2	EA	LED, GRN, HP, 1790	D1 & D2
72	88.8139.0002	2	EA	DISPLAY, INTELLINET ALPHA NUMERIC 0.54" H-EFF RED	U3 & U7
73	88.8140.0009	3	EA	LED MOUNT, .140" TALL NATURAL NYLON	XD1-XD3

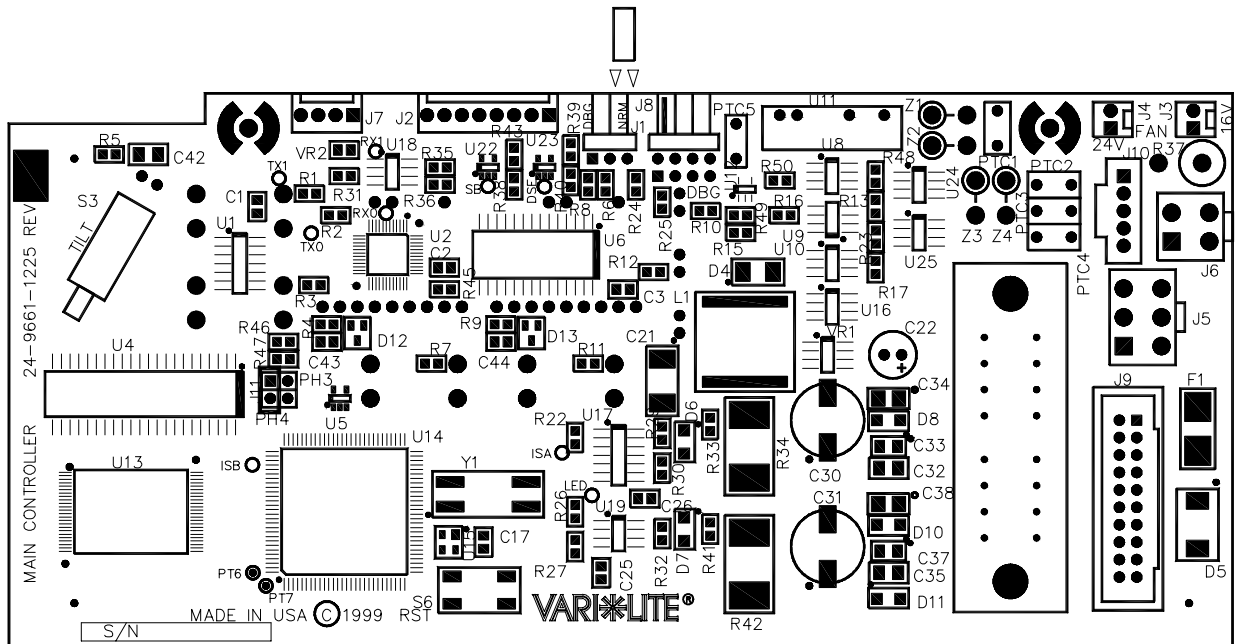


Figure 3-37: Main Controller 3-Phase PCB Assembly

DMX Input PCB Assembly

24.9661.1251 Rev D

Refer to Figure 3-38.

No.	Item	Qty.	UM.	Description	Ref.
1	11.9661.1251	1	EA	PCB, DMX INPUT	
2	52.6585.0005	1	EA	CONN, XLR 5PIN FEMALE PC MOUNT VERTICAL	J1
3	52.6586.0005	1	EA	CONN, XLR 5PIN MALE PC MOUNT VERTICAL	J2
4	52.6525.0005	1	EA	HEADER, 5POS RA SHROUDED .1" CTR	J3
5	62.3017.0102	1	EA	CAP, 1000PF 250V RAD CER DISC 20% Y-TYPE	C1
6	73.7046.0001	2	in	WIRE, 22AWG STRND GREEN	

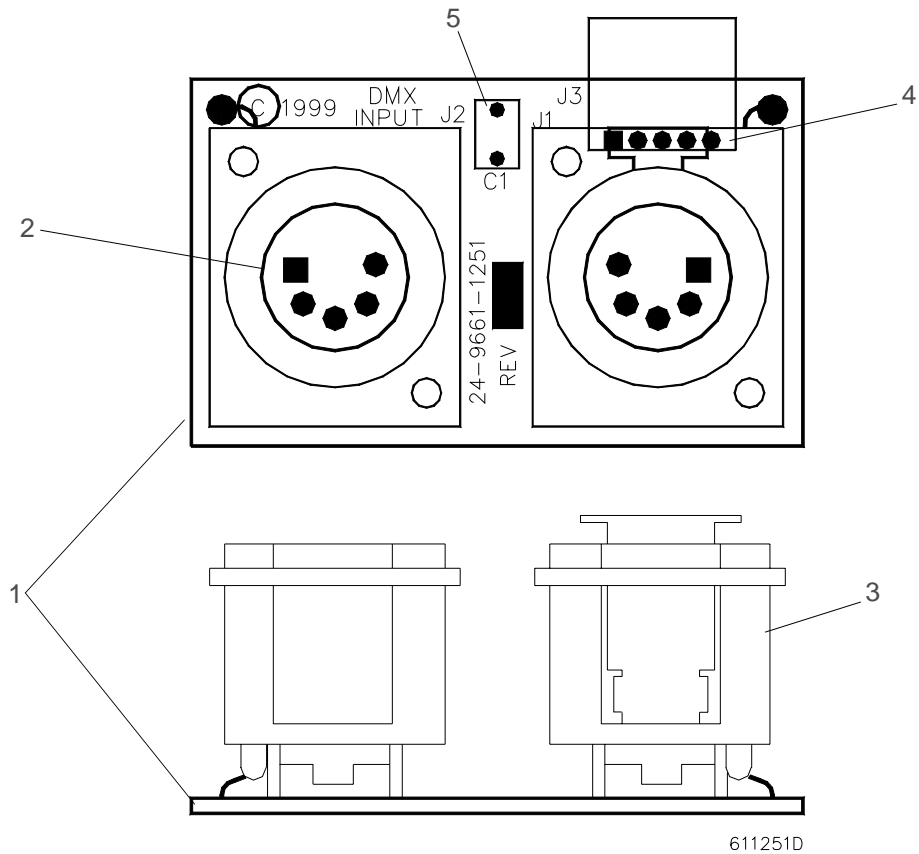


Figure 3-38: DMX Input PCB Assembly

Pan Tube Assembly

21.9661.1208 Rev K

Refer to Figure 3-39.

No.	Item	Qty.	UM.	Description
1	10.9661.1247	1	EA	TOGGLE STOP
2	10.9661.1290	1	EA	PAN TUBE
3	10.9661.1291	1	EA	FLANGE, PAN TUBE
4	21.9661.1207	1	EA	ASSY, PAN SUPPORT PLATE
-	10.9661.1297	1	EA	PLATE, PAN SUPPORT
-	55.2139.0003	1	EA	STANDOFF, 1/4" RND 8-32 .188"LG FF ALUM
5	21.9661.1212	1	EA	ASSY, PAN BEARING CUP, FLANGE SIDE
-	10.9661.0611.2	1	EA	PAN BEARING HOUSING
-	54.1244.0001	1	EA	BEARING, 1.25"BORE 2.2"WD CONRAD
6	22.9661.0601	1	EA	ASSY, PAN/TILT BEARING
-	10.9661.0611.1	1	EA	TILT BEARING HOUSING
-	54.1244.0001	1	EA	BEARING, 1.25" BORE 2.25"OD .500"WD CONRAD
7	22.9661.0607	1	EA	ASSY, DRIVEN PULLEY
-	10.9661.0650	1	EA	TIMING PULLEY, 150 TOOTH 2MM PITCH
-	10.9661.0655	1	EA	EOT FLAG
-	53.6530.0006	2	EA	RIVET, 1/8"OD POP .188-.250GL
-	55.6612.0022	1	EA	PIN, GRV .250"OD .625"LG STEEL
8	53.6517.0001	4	EA	SCREW, 10-32 X 3/8" PPZ
9	54.1206.0010	1	EA	RING, RETAINING 1.118" GRV DIA .056" GRV WD EXTERNAL
10	55.2123.0005	1	EA	SPRING, WAVE 1.62" OD 1.31" ID CAR STL
11	55.2152.0002	3	EA	SHIM, 1.500" OD 1.200" ID .024" THK SS
12	55.3303.0010	4	EA	WASHER, #10 FLAT
13	55.6612.0018	1	EA	PIN, GRV .250" OD 1.0" LG STL ZINC PLT
14	55.6677.0027	1	EA	WASHER, 1.75" OD 1.281" ID .015" THK FLAT NYLON

Pan Tube Assembly (cont.)

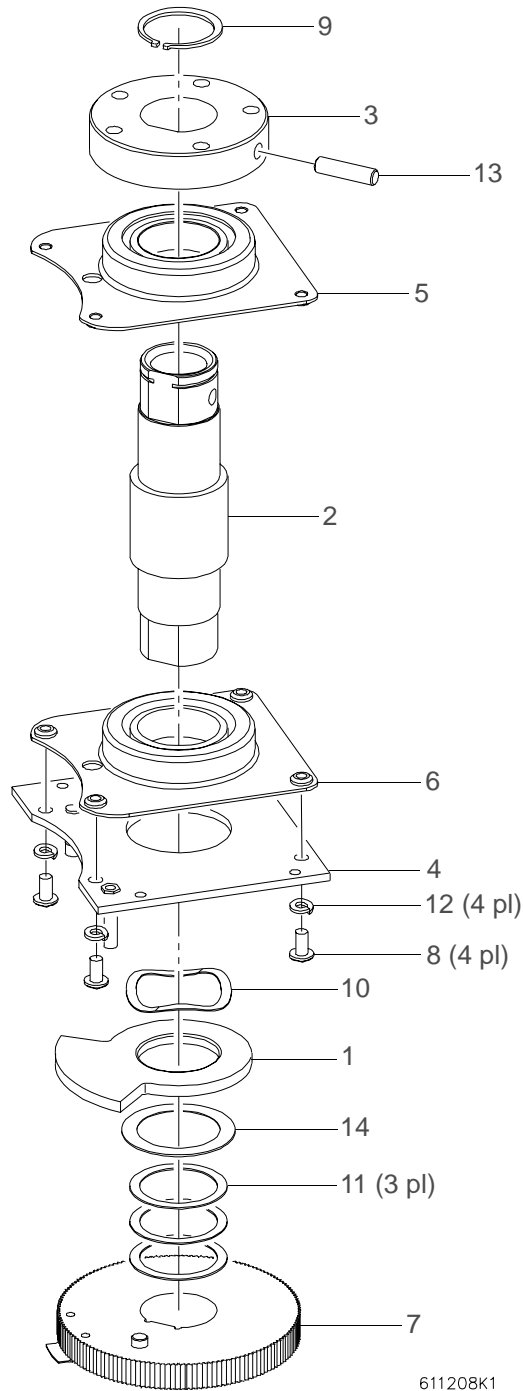


Figure 3-39: Pan Tube Assembly

Pan Motor Assembly

22.9661.1210 Rev F (Formerly 22.9661.0664 Rev E)

Refer to Figure 3-40.

No.	Item	Qty.	UM.	Description
1	10.9661.1298	1	EA	PLATE, TENSION ADJUST, PAN MOTOR
2	22.9661.0608	1	EA	ASSY, DRIVE PULLEY
-	- 10.9661.0640	1	EA	CODEWHEEL, 90 COUNT
-	- 10.9661.0649	1	EA	TIMING PULLEY, 2MM GT, 17 TOOTH
-	- 53.5561.0250	2	EA	SCREW, 6-40 X 1/4" SET CONE POINT
3	23.9661.1253	1	EA	ELEC ASSY, PAN EOT SENSOR
-	- 52.6524.0006	1	EA	CONN, HOUSING 6-POS RECEPTACLE
-	- 52.8346.0001	4	EA	CONTACT, 24-30 AWG FEMALE CRIMP
-	- 86.7002.0003	1	EA	SWITCH, SLOTTED OPTICAL
4	24.9661.0629	1	EA	PCB ASSY, PAN/TILT ENCODER
5	44.5034.0001	1	EA	MOTOR, STEPPER, 42 X 40 10 OHM
6	53.2203.0001	2	EA	SCREW, 4-40 X 1/4" PPZ
7	53.5506.0625	4	EA	SCREW, 6-32 X 5/8 " PPSS
8	55.6512.0001	2	EA	WASHER, #4 SPLIT LOCK
9	53.6520.0001	2	EA	SCREW, 4-40 X 3/8" PPZ
10	55.6621.0001	4	EA	WASHER, #4 FLAT ZINC
11	55.6669.0022	2	EA	STANDOFF, 1/4" HEX 4-40 .500" MF

Pan Motor Assembly (cont.)

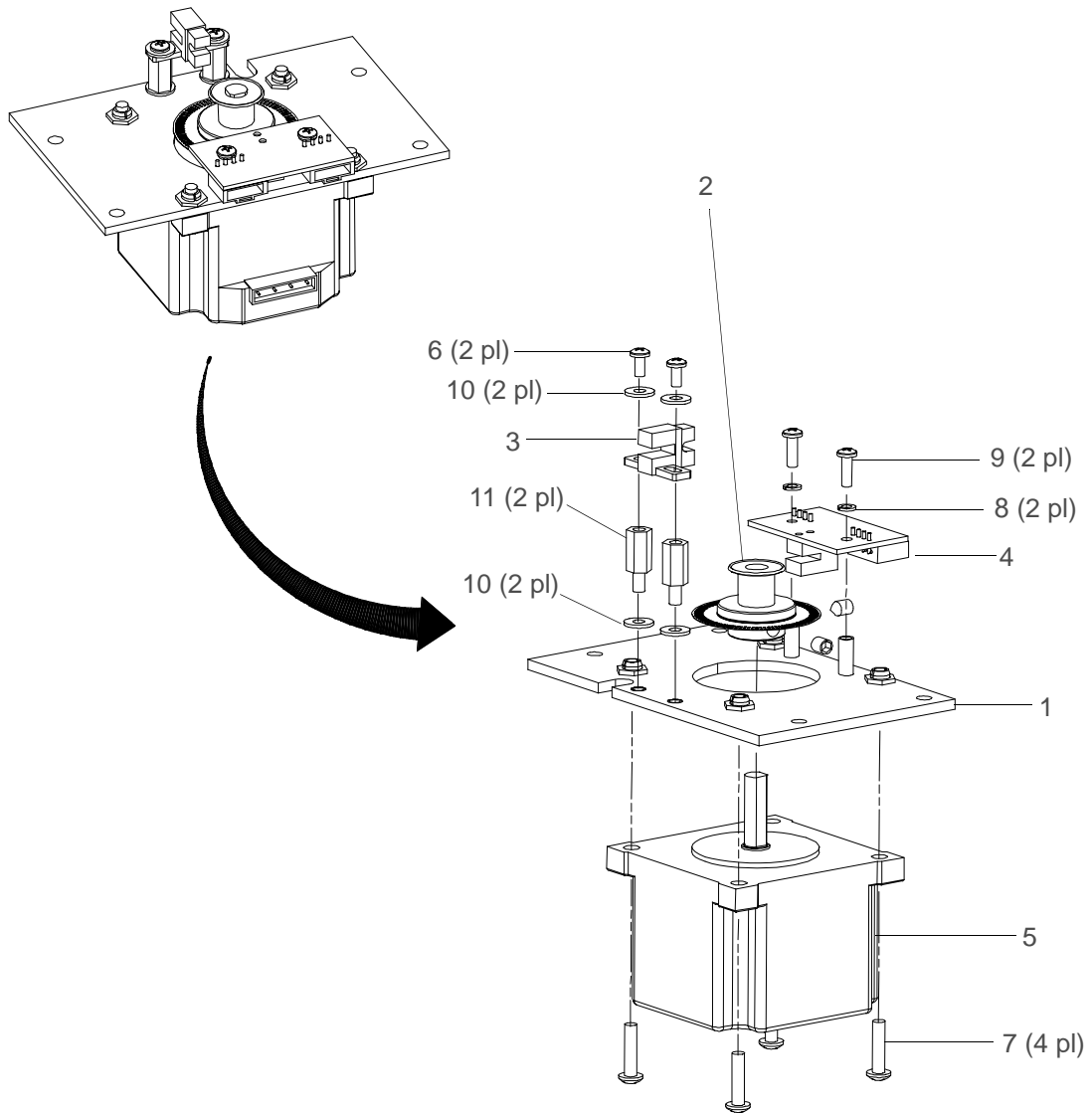


Figure 3-40: Pan Motor Assembly

Ballast Module (Arc Power Supply) Assy

23.9661.1277 (VL2201) Rev J

23.9671.1250 (VL2000 Spot) Rev C

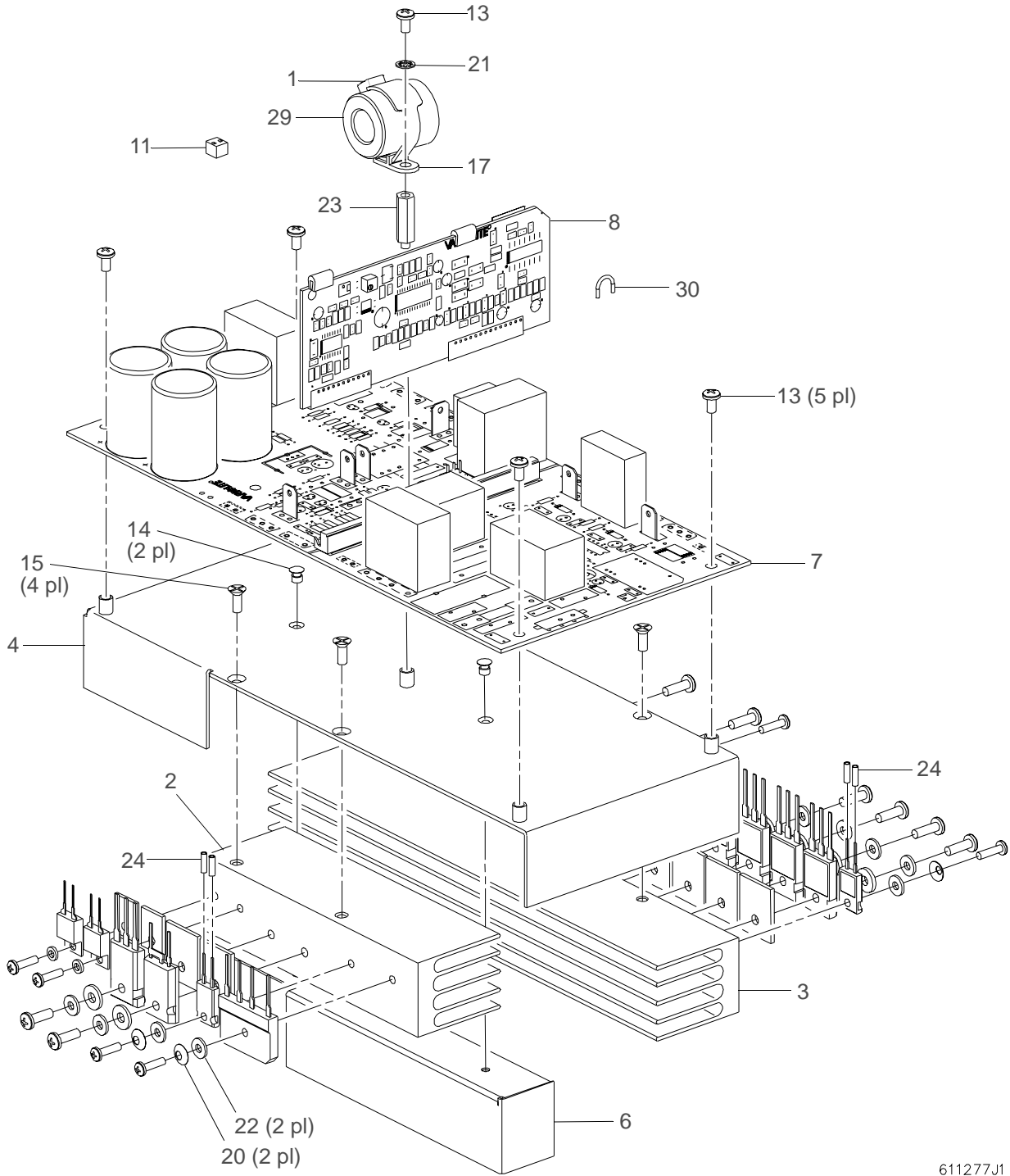
Refer to Figures 3-41 and 3-42.

No.	Item	Qty.	UM.	Description
1	06.6032.0009	1	EA	CABLE MARKER TIE, WHITE 19 X 7.4"
2	10.9661.1260	1	EA	HEAT SINK, LEFT 1200 WATT POWER SUPPLY
3	10.9661.1261	1	EA	HEAT SINK, RIGHT 1200 WATT POWER SUPPLY
4	10.9661.1262	1	EA	TOP, AIR DUCT 1200 WATT POWER SUPPLY
5	10.9661.1274	1	EA	INSULATOR, ELECTRICAL, TO-247
6	10.9661.1353	1	EA	CHANNEL, AIR APS
7	24.9661.1120	1	EA	PCB ASSY, 400/625W BALLAST BOARD (VL2201 ONLY)
	24.9661.1130	1	EA	PCB ASSY, 700W BALLAST BOARD (VL2000 ONLY)
8	24.9661.1121	1	EA	PCB ASSY, 400/625W BALLAST RIDER BOARD (VL2201 ONLY)
	24.9661.1131	1	EA	PCB ASSY, 700W BALLAST RIDER BOARD (VL2000 ONLY)
9	51.5006.0004	3	EA	INSULATOR, TO-220 ALUMINUM OXIDE (4171)
10	51.5029.0001	7	EA	INSULATOR, TO-247 ALUMINUM OXIDE
11	52.6580.1002	1	EA	JUMPER, 2POS .100" CTR CLSD END 10UGOLD BLACK (VL2201 ONLY)
12	53.6520.0002	6	EA	SCREW, 4-40 X 7/16" PPZ
13	53.6522.0001	5	EA	SCREW, 6-32 X 1/4" PPZ
14	53.6530.0007	2	EA	RIVET, 1/8" OD POP .063-.125GRP RG .265LG CSKH-AL5052
15	53.6609.0001	4	EA	SCREW, 6-32 X 3/8" PFZ
16	53.6616.0001	8	EA	SCREW, 6-32 X 3/4" PPZ
17	55.2178.0001	1	EA	CABLE ANCHOR MOUNT, #8 SCREW MOUNTING
18	55.6509.0001	3	EA	WASHER, SHOULDER (HEATSINK)
19	55.6528.0001	8	EA	WASHER, #6 FLAT ZINC
20	55.6537.0001	3	EA	WASHER, #4 LOCK INTERNAL TOOTH
21	55.6538.0001	9	EA	WASHER, #6 LOCK INTERNAL TOOTH
22	55.6621.0001	3	EA	WASHER, #4 FLAT ZINC
23	55.6658.0009	1	EA	STANDOFF, 1/4" HEX 6-32 .750" LG MF SS
24	55.6736.2500	0.11	FT	TUBING, TEFLON .053ID STD WALL 500V/MIL, FOR AWG #16
25	60.9244.0501	1	EA	RES, 30W 5% .05 OHM TO-220 POWER FILM
26	60.9245.0100	1	EA	RES, 30W 1% 0.1 OHM TO-220 POWER FILM (VL2201 ONLY)
	60.9245.0751	1	EA	RES, 30W 1% .075 OHM TO-220 POWER FILM (VL2000 ONLY)

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No.	Item	Qty.	UM.	Description
27	63.2047.0085	1	EA	THERMOSTAT, 85DEG C PCB MT CLOSE ON RISE (VL2201 ONLY)
	63.2047.0075	1	EA	THERMOSTAT, 75DEG C PCB MT CLOSE ON RISE (VL2000 ONLY)
28	63.2047.0105	2	EA	THERMOSTAT, 105DEG C PCB MOUNT CLOSE ON RISE
29	67.4018.0001	2	EA	FERRITE, 26 X 28.5 X 13MM, CYLINDRICAL CORE
30	73.7051.0001	1	FT	WIRE, 22AWG BUSS
31	80.2628.0001	4	EA	TRANSISTOR, IXGH39N60BD1 IGBT 76A 600V
32	80.2647.0001	1	EA	TRANSISTOR, IXGH32N60C IGBT 32A 600V
33	80.2648.0001	1	EA	TRANSISTOR, IXFH32N50 POWER MOSFET 500V 32A TO-247
34	82.4323.0001	1	EA	DIODE, BRIDGE D25XB60 600V 25A SIP
35	82.5341.0001	2	EA	DIODE, DSEI30-06A FRED 25-37A T0-247 AD

Ballast Module Assy (cont.)



611277J1

Figure 3-41: Ballast Module (Arc Power Supply) Assy

Ballast Module Assy (cont.)

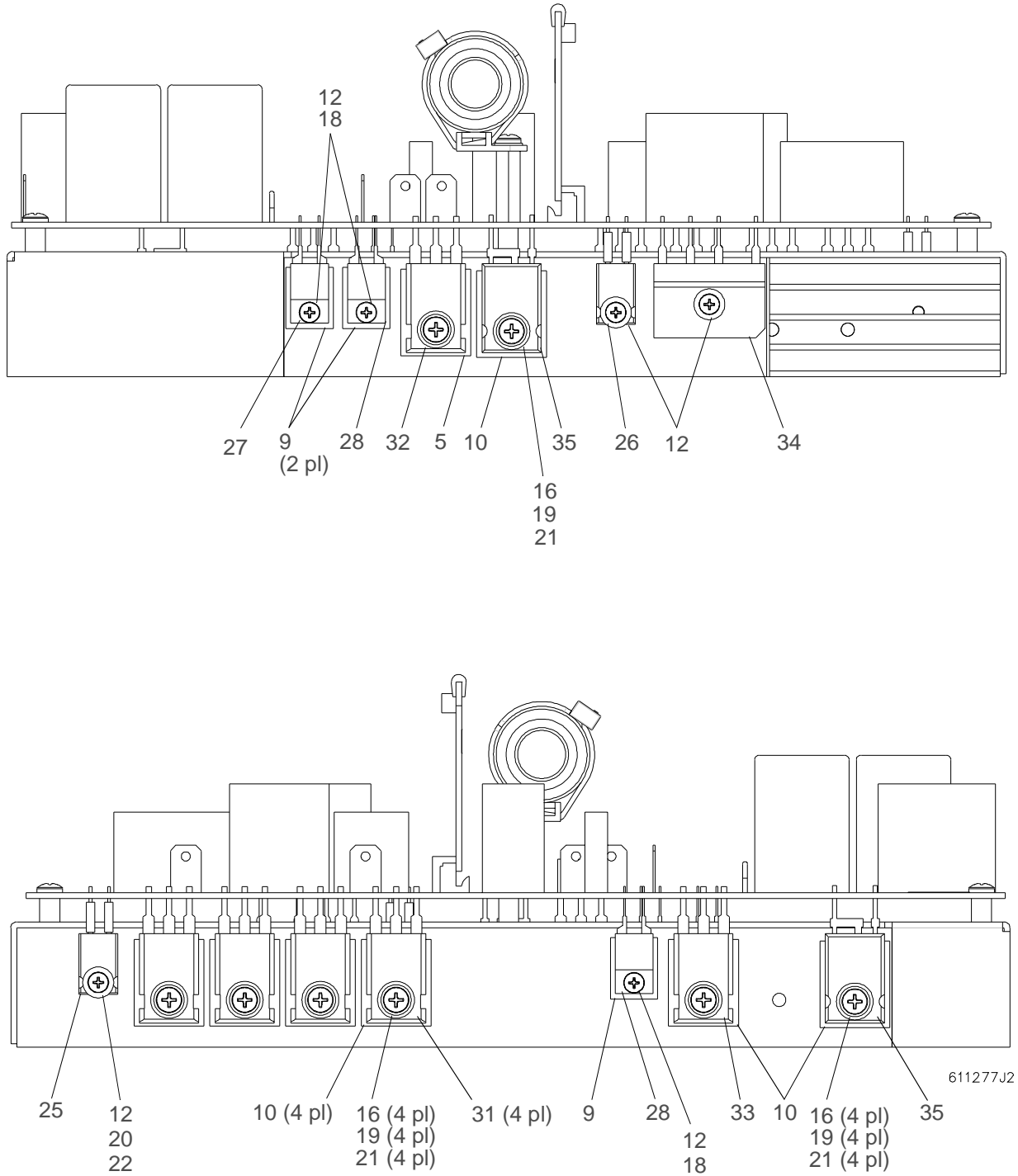


Figure 3-42: Ballast Module (Arc Power Supply) Assy

400/625W Ballast Board PCB Assembly

24.9661.1120 Rev H

Refer to Figure 3-43.

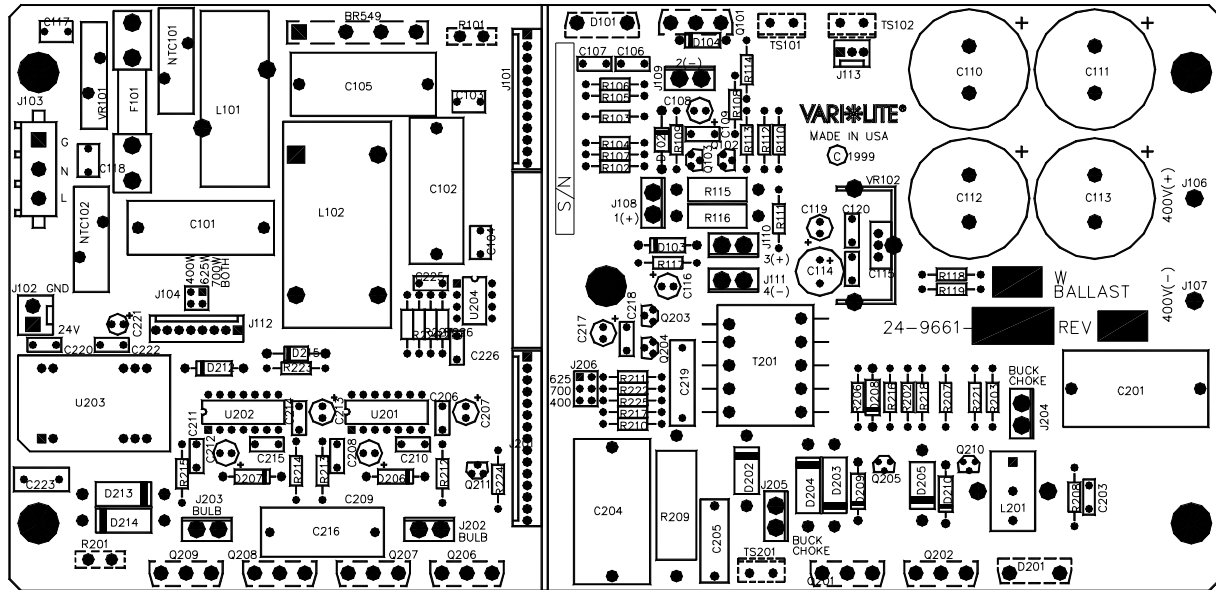
No.	Item	Qty.	UM.	Description	Ref.
1	10.9661.1356	1	EA	GUIDE, APS RIDER PCB	
2	11.9661.1120	1	EA	PCB, 400/625W BALLAST BOARD	
3	51.5031.0001	1	EA	HEATSINK, TO-220 CLIP-ON ALUM BLACK ANODIZED PC MT	
4	52.6229.0001	1	EA	HEADER, 3POS MTA FRIC LOK STRT POST	J113
5	52.6261.0002	1	EA	HEADER, 2PIN MTA156	J102
6	52.6296.0001	1	EA	HEADER, 8POS MTA FRCT LOK STRT POST	J112
7	52.6370.0003	1	EA	HEADER ASSY, 3CIR SOCKET MNLOK FMLE	J103
8	52.6574.0012	1	EA	HEADER, 12CIR VERTICAL KK STYLE	J101
9	52.6574.0015	1	EA	HEADER, 15CIR VERTICAL KK STYLE	J201
10	52.6580.0003	1	EA	HEADER, 3PIN SGL RW STRGHT 10U GOLD .025" SQ	J206
11	52.8252.0001	10	EA	TERM, .250" TAB PC QUICK-FIT BRASS	J108-J111 & J202-J205
12	52.8283.5202	1	EA	TEST POINT, PCB MT .052"HOLE RED GLASS BEAD	J106
13	52.8283.5210	1	EA	TEST POINT PCB MT .052"HOLE BLK GLASS BEAD	J107
14	60.1230.1004	1	EA	RES, 1/4W 1% 10.0 K MF	R225
15	60.1230.1214	1	EA	RES, 1/4W 1% 12.1 K MF	R203
16	60.1230.4755	4	EA	RES, 1/4W 1% 475.0 K MF	R112, R113, R202 & R218
17	60.1230.7153	1	EA	RES, 1/4W 1% 7.15 K MF	R222
18	60.1230.8255	1	EA	RES, 1/4W 1% 825.0 K MF	R210
19	60.1231.5623	1	EA	RES, 1/4W 1% 5.62 K MF	R211
20	60.1231.6983	1	EA	RES, 1/4W 1% 6.98 K MF	R114
21	60.1420.2001	1	EA	RES, 1/4W 5% 20.0 OHM CF	R117
22	60.1420.3002	1	EA	RES, 1/4W 5% 300.0 OHM CF	R107
23	60.1420.4302	2	EA	RES, 1/4W 5% 430.0 OHM CF	R216 & R224
24	60.1420.5101	4	EA	RES, 1/4W 5% 51.0 OHM CF	R212-R215
25	60.1420.5105	2	EA	RES, 1/4W 5% 510.0 K CF	R110 & R111
26	60.1420.7505	2	EA	RES, 1/4W 5% 750.0 K CF	R105 & R106
27	60.1421.1201	1	EA	RES, 1/4W 5% 12.0 OHM CF	R206

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No.	Item	Qty.	UM.	Description	Ref.
28	60.1421.3301	1	EA	RES, 1/4W 5% 33.0 OHM CF	R109
29	60.1421.5100	1	EA	RES, 1/4W 5% 5.1 OHM CF	R208
30	60.1421.6805	1	EA	RES, 1/4W 5% 680.0 K CF	R102
31	60.1422.1001	3	EA	RES, 1/4W 5% 1.0 K CF	R219, R220 & R223
32	60.1422.2001	1	EA	RES, 1/4W 5% 2.0 K CF	R119
33	60.1424.1502	1	EA	RES, 1/4W 5% 15.0 K CF	R104
34	60.1424.2004	1	EA	RES, 1/4W 5% 20.0 K CF	R108
35	60.1424.2702	2	EA	RES, 1/4W 5% 27.0 K CF	R103 & R118
36	60.1426.1003	3	EA	RES, 1/4W 5% 100.0 K CF	R226 & R227
37	60.1431.1007	1	EA	RES, 1/4W 5% 10.0 OHM	R217
38	60.3432.2004	2	EA	RES, 2W 5% 20.0 K MET OXIDE	R115 & R116
39	60.7440.1002	1	EA	RES, 5W 5% 100.0 OHM WW	R209
40	62.2110.0474	1	EA	CAP, .47UF 250V RAD METALLIZED POLYEST 15MM L.S. 10%	C219
41	62.2112.0337	4	EA	CAP, 330 UF 250V RAD ALUM 25MM X 30MM	C110-C113
42	62.2114.0107	1	EA	CAP, 100UF 50V RAD ALUM 10MM X 15MM 20%	C114
43	62.3007.0474	2	EA	CAP, .47UF 275VAC RAD SUPPRESSOR 10%	C101 & C102
44	62.3013.0105	2	EA	CAP, 1UF 630V RAD MET PLYPLN 10%	C201 & C204
45	62.3013.0474	1	EA	CAP, .47UF 630V RAD MET PLYPLN 10%	C105
46	62.3017.0102	4	EA	CAP, 1000PF 250V RAD CER DISC 20% Y-TYPE	C103, C104, C117 & C118
47	62.3017.0472	1	EA	CAP, 4700PF 250V RAD CER DISC Y-CLASS	C223
48	62.3021.2331	1	EA	CAP, 330PF 200V RAD CER 20% X7R	C203
49	62.3023.0104	12	EA	CAP, .1UF 50V RAD CER 20% Z5U	C109, C115, C120, C206, C209, C211, C214, C218, C220, C222, C225 & C226
50	62.3023.0333	1	EA	CAP, .33UF 50V RAD CER 20% Z5U	C106
51	62.3023.0473	3	EA	CAP, .47UF 50V RAD CER 20% Z5U	C107, C210 & C215
52	62.3027.0102	1	EA	CAP, 1000PF 1600V RAD POLYPROPYLENE .600" 10%	C205
53	62.3029.0333	1	EA	CAP, .033UF 1000V RAD POLYPROPYLENE .886" 10%	C216
54	62.4010.0106	1	EA	CAP, 10UF 50V RAD ALUM 4 X 11 MM 20%	C221
55	62.4010.0475	8	EA	CAP, 4.7UF 50V RAD ALUM 5 X 11 MM 20%	C108, C116, C119, C207, C208, C212, C213 & C217

No.	Item	Qty.	UM.	Description	Ref.
56	63.2048.0001	2	EA	THERMISTOR, 10A 2.5 OHM NTC CURRENT LIMIT	NTC101 & NTC102
57	63.2050.0001	1	EA	VARISTOR, METAL OXIDE 300V RMS 165J 775V CLAMP	VR101
58	68.4536.0002	1	EA	CHOKER, COMMON MODE FILTER 1.35MH 11A	L102
59	68.4577.0001	1	EA	INDUCTOR, CURRENT SENSE PE-51688	L201
60	68.9661.1112	1	EA	TRANSFORMER, GATE DRIVE	T201
61	68.9661.1115	1	EA	CHOKER, EMI DIFFERENTIAL	L101
62	70.3727.0002	2	EA	FUSE CLIP, 1/4" PC BOARD TINNED BRASS	XF101
63	70.3762.0020	1	EA	FUSE, 20A 250VAC VERY FAST ACT 1/4" X 1 1/4" CERAMIC	F101
64	73.6016.0006	0.25	FT	WIRE, 16AWG 600V 105C PVC BLU UL1015	
65	80.2623.0001	2	EA	TRANSISTOR, 2N4401 NPN 40V 600MA	Q102, Q203
66	80.2623.0003	3	EA	TRANSISTOR, 2N4403 PNP 40V 600MA TO-92	Q103, Q204 & Q211
67	80.2643.0001	1	EA	TRANSISTOR, MPSW63 1W PNP DARLINGTON 30V 500MA 1W TO-92	Q205
68	82.4308.4937	4	EA	DIODE, 1N4937 FAST 600V 1A	D206-D209
69	82.4317.5819	1	EA	DIODE, 1N5819 RECTIFIER 40V 1A	D212
70	82.5318.0160	1	EA	DIODE, MUR160, 600V, 1A	D104
71	82.5322.0001	1	EA	DIODE, 1N4736A	D215
72	82.5323.0001	2	EA	DIODE, MUR460 600V 4AMP ULTRAFast	D202 & D205
73	82.5340.0001	4	EA	DIODE, ZENER 1.5KE250A TVS 250V 1500W	D203, D204, D213 & D214
74	82.5349.0001	1	EA	DIODE, MBR1100 SCHOTTKY 1A 100V AXIAL LEAD RECTIFIER	D103
75	82.5351.0001	1	EA	DIODE, ZENER 20V 1W 5% DO-41 1	D102
76	83.3188.0001	1	EA	IC, LM317AT 3-TERM ADJUSTABLE REGULATOR	VR102
77	84.7427.0001	1	EA	IC, WPC03R24S15L DC-DC CONVERTER 3W	U203
78	85.5120.0001	2	EA	IC, IR2110, 1/2 BRIDGE DRIVER	U201 & U202
79	86.6109.0001	1	EA	IC, OPTO COUPLER DUAL CHANNEL 8PIN DIP	U204

400/625W Ballast Board PCB Assembly (cont.)



VIEWED FROM COMPONENT SIDE

611120H

Figure 3-43: 400/625W Ballast Board PCB Assembly

700W Ballast Board PCB Assembly

24.9661.1130 Rev C

Refer to Figure 3-44.

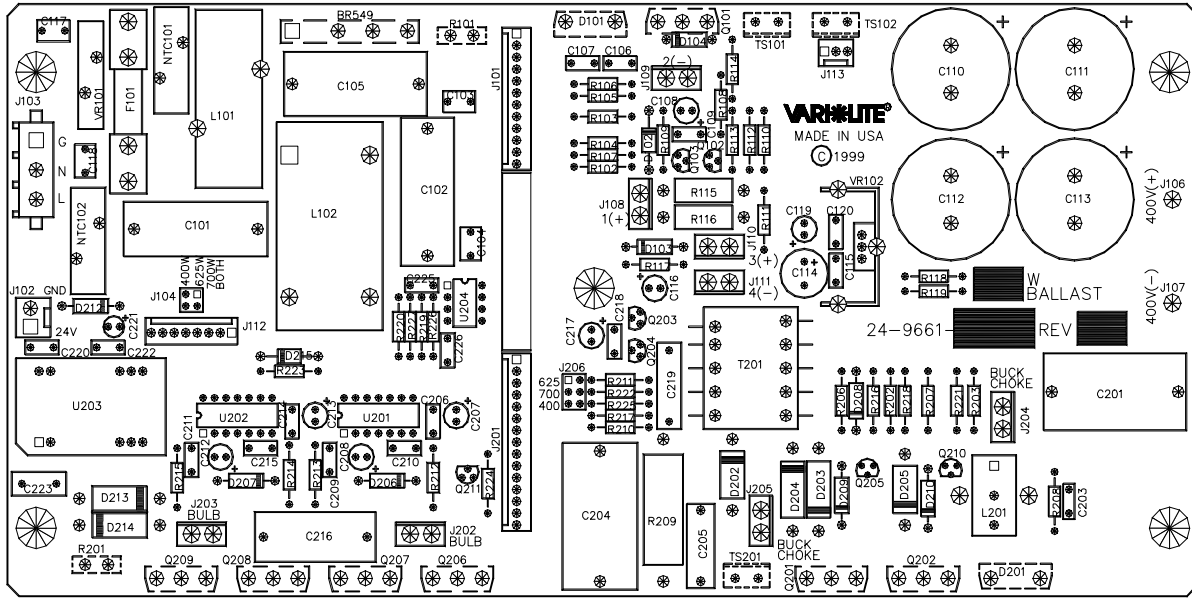
No.	Item	Qty.	UM.	Description	Ref.
1	10.9661.1356	1	EA	GUIDE, APS RIDER PCB	
2	11.9661.1120	1	EA	PCB, 400/625W BALLAST BOARD	
3	51.5031.0001	1	EA	HEATSINK, TO-220 CLIP-ON ALUM BLACK ANODIZED PC MT	
4	52.6229.0001	1	EA	HEADER, 3POS MTA FRIC LOK STRT POST	J113
5	52.6261.0002	1	EA	HEADER, 2PIN MTA156	J102
6	52.6296.0001	1	EA	HEADER, 8POS MTA FRCT LOK STRT POST	J112
7	52.6370.0003	1	EA	HEADER ASSY, 3CIR SOCKET MNLOK FMLE	J103
8	52.6574.0012	1	EA	HEADER, 12CIR VERTICAL KK STYLE	J101
9	52.6574.0015	1	EA	HEADER, 15CIR VERTICAL KK STYLE	J201
10	52.8252.0001	8	EA	TERM, .250"TAB PC QUICK-FIT BRASS	J108-111 & J202-205
11	52.8283.5202	1	EA	TEST POINT, PCB MT .052"HOLE RED GLASS BEAD	J106
12	52.8283.5210	1	EA	TEST POINT, PCB MT .052"HOLE BLK GLASS BEAD	J107
13	60.1230.1004	1	EA	RES, 1/4W 1% 10.0 K MF	R225
14	60.1230.1214	1	EA	RES, 1/4W 1% 12.1 K MF	R203
15	60.1230.4755	4	EA	RES, 1/4W 1% 475.0 K MF	R112, R113, R202 & R218
16	60.1230.7153	2	EA	RES, 1/4W 1% 7.15 K MF	R114 & R222
17	60.1230.8255	1	EA	RES, 1/4W 1% 825.0 K MF	R210
18	60.1231.5623	1	EA	RES, 1/4W 1% 5.62 K MF	R211
19	60.1420.2001	2	EA	RES, 1/4W 5% 20.0 OHM CF	R109 & R117
20	60.1420.3002	1	EA	RES, 1/4W 5% 300.0 OHM CF	R107
21	60.1420.4302	3	EA	RES, 1/4W 5% 430.0 OHM CF	R216, R221 & R224
22	60.1420.5101	4	EA	RES, 1/4W 5% 51.0 OHM CF	R212-R215
23	60.1420.5105	2	EA	RES, 1/4W 5% 510.0 K CF	R110 & R111
24	60.1420.7505	2	EA	RES, 1/4W 5% 750.0 K CF	R105 & R106
25	60.1421.1201	2	EA	RES, 1/4W 5% 12.0 OHM CF	R206 & R207
26	60.1421.4700	1	EA	RES, 1/4W 5% 4.7 OHM CF	R208
27	60.1421.6805	1	EA	RES, 1/4W 5% 680.0 K CF	R102

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No.	Item	Qty.	UM.	Description	Ref.
28	60.1422.1001	3	EA	RES, 1/4W 5% 1.0 K CF	R219, R220 & R223
29	60.1422.2001	1	EA	RES, 1/4W 5% 2.0 K CF	R119
30	60.1424.1502	1	EA	RES, 1/4W 5% 15.0 K CF	R104
31	60.1424.2004	1	EA	RES, 1/4W 5% 20.0 K CF	R108
32	60.1424.2702	2	EA	RES, 1/4W 5% 27.0 K CF	R103 & R118
33	60.1426.1003	2	EA	RES, 1/4W 5% 100.0 K CF	R226 & R227
34	60.1431.1007	1	EA	RES, 1/4W 5% 10.0 OHM	R217
35	60.3432.2004	2	EA	RES, 2W 5% 20.0 K MET OXIDE	R115 & R116
36	60.7440.1002	1	EA	RES, 5W 5% 100.0 OHM WW	R209
37	62.2110.0474	1	EA	CAP, .47UF 250V RAD METALLIZED POLYEST 15MM L.S. 10%	C219
38	62.2112.0337	4	EA	CAP, 330 UF 250V RAD ALUM 25MM X 30MM	C110-C113
39	62.2114.0107	1	EA	CAP, 100UF 50V RAD ALUM 10MM X 15MM 20%	C114
40	62.3007.0474	2	EA	CAP, .47UF 275VAC RAD SUPPRESSOR 10%	C101 & C102
41	62.3013.0105	2	EA	CAP, 1UF 630V RAD MET PLYPLN 10%	C201 & C204
42	62.3013.0474	1	EA	CAP, .47UF 630V RAD MET PLYPLN 10%	C105
43	62.3017.0102	4	EA	CAP, 1000PF 250V RAD CER DISC 20% Y-TYPE	C103, C104, C117 & C118
44	62.3017.0472	1	EA	CAP, 4700PF 250V RAD CER DISC Y-CLASS	C223
45	62.3021.2331	1	EA	CAP, 330PF 200V RAD CER 20% X7R	C203
46	62.3023.0104	12	EA	CAP, .1UF 50V RAD CER 20% Z5U	C109, C115, C120, C206, C209, C211, C214, C218, C220, C222, C225 & C226
47	62.3023.0333	1	EA	CAP, .33UF 50V RAD CER 20% Z5U	C106
48	62.3023.0473	3	EA	CAP, .47UF 50V RAD CER 20% Z5U	C107, C210 & C215
49	62.3027.0102	1	EA	CAP, 1000PF 1600V RAD POLYPROPYLENE .600" 10%	C205
50	62.3029.0333	1	EA	CAP, .033UF 1000V RAD POLYPROPYLENE .886" 10%	C216
51	62.4010.0106	1	EA	CAP, 10UF 50V RAD ALUM 4 X 11 MM 20%	C221
52	62.4010.0475	8	EA	CAP, 4.7UF 50V RAD ALUM 5 X 11 MM 20%	C108, C116, C119, C207, C208, C212, C213 & C217
53	63.2050.0001	1	EA	VARISTOR, METAL OXIDE 300V RMS 165J 775V CLAMP	VR101

No.	Item	Qty.	UM.	Description	Ref.
54	63.2055.0001	2	EA	THERMISTOR, 12A 0.7 OHM NTC INRUSH CURRENT LIMIT	NTC101 & NTC102
55	68.4536.0002	1	EA	CHOKE, COMMON MODE FILTER 1.35MH 11A	L102
56	68.4577.0001	1	EA	INDUCTOR, CURRENT SENSE PE-51688	L201
57	68.9661.1112	1	EA	TRANSFORMER, GATE DRIVE	T201
58	68.9661.1115	1	EA	CHOKE, EMI DIFFERENTIAL	L101
59	70.3727.0002	2	EA	FUSE CLIP, 1/4" PC BOARD TINNED BRASS	XF101
60	70.3762.0020	1	EA	FUSE, 20A 250VAC VERY FAST ACT 1/4"X1 1/4" CERAMIC	F101
61	73.6016.0006	0.25	FT	WIRE, 16AWG 600V 105C PVC BLU UL1015	
62	80.2623.0001	2	EA	TRANSISTOR, 2N4401 NPN 40V 600MA	Q102 & Q203
63	80.2623.0003	3	EA	TRANSISTOR, 2N4403 PNP 40V 600MA TO-92	Q103, Q204 & Q211
64	80.2643.0001	2	EA	TRANSISTOR, MPSW63 1W PNP DARLINGTON 30V 500MA 1W TO-92	Q205 & Q210
65	82.4308.4937	5	EA	DIODE, 1N4937 FAST 600V 1A	D206-D210
66	82.4317.5819	1	EA	DIODE, 1N5819 RECTIFIER 40V 1A	D212
67	82.5318.0160	1	EA	DIODE, MUR160, 600V, 1A	D104
68	82.5322.0001	1	EA	DIODE, 1N4736A	D215
69	82.5323.0001	2	EA	DIODE, MUR460 600V 4AMP ULTRAFAST	D202 & D205
70	82.5349.0001	1	EA	DIODE, MBR1100 SCHOTTKY 1A 100V AXIAL LEAD RECTIFIER	D103
71	82.5351.0001	1	EA	DIODE, ZENER 20V 1W 5% DO-41 1N4747A	D102
72	83.3188.0001	1	EA	IC, LM317AT 3-TERM ADJUSTABLE REGULATOR	VR102
73	84.7427.0001	1	EA	IC, WPC03R24S15L DC-DC CONVERTER 3W	U203
74	85.5120.0001	2	EA	IC, IR2110,1/2 BRIDGE DRIVER	U201 & U202
75	86.6109.0001	1	EA	IC, OPTO COUPLER DUAL CHANNEL 8PIN DIP	U204

700W Ballast Board PCB Assembly (cont.)



VIEWED FROM COMPONENT SIDE

Figure 3-44: 700W Ballast Board PCB Assembly

400/625W Ballast Rider Board PCB Assembly

24.9661.1121 Rev E

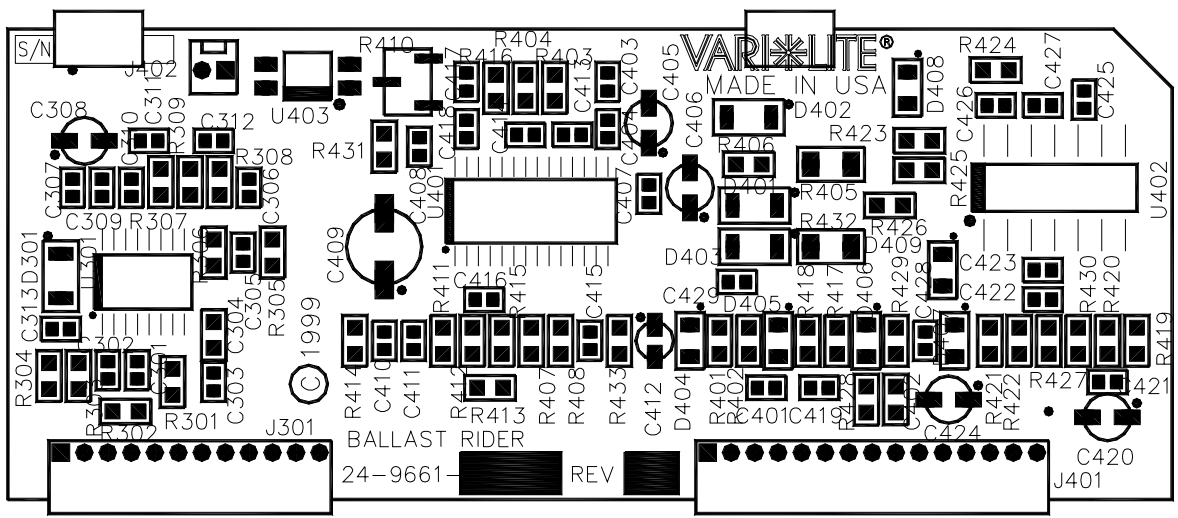
Refer to Figure 3-45.

No.	Item	Qty.	UM.	Description	Ref.
1	10.9661.1355	2	EA	STABILIZING EXTRUSION, APS RIDER BD PCB	
2	11.9661.1111	1	EA	PCB, BALLAST RIDER	
3	52.6297.0001	1	EA	HEADER, 2PIN MTA FRCT LOK STRT POST	J402
4	52.6576.0012	1	EA	CONN, 12 CIR .100" PC BOARD	J301
5	52.6576.0015	1	EA	CONN, 15 CIR .100" PC BOARD	J401
6	60.0460.1004	1	EA	RES, 1/8W 5% 10.0 K THK FLM CHIP SUR MT EIA-1206	R401
7	60.9462.1003	2	EA	RES, 1/2W 5% 1.0 K 200V CHIP THK FLM SMT2010	R405 & R432
8	60.9463.0000	1	EA	RES, 1/8W ZERO OHM 200V CHP THK FLM S- MT1206	R433
9	60.9463.1004	1	EA	RES, 1/8W 1% 10.0 K 200V CHP THK FLM S- MT1206	R306
10	60.9463.1005	1	EA	RES, 1/8W 1% 100.0 K 200V CHP THK FLM S- MT1206	R408
11	60.9463.1215	1	EA	RES, 1/8W 1% 121.0 K 200V CHP THK FLM S- MT1206	R407
12	60.9463.1474	2	EA	RES, 1/8W 1% 14.7 K 200V CHP THK FLM SMT1206	R301 & R304
13	60.9463.1624	1	EA	RES, 1/8W 1% 16.2 K 200V CHP THK FLM S- MT1206	R412
14	60.9463.2004	1	EA	RES, 1/8W 1% 20.0 K 200V CHP THK FLM S- MT1206	R307 & R419
15	60.9463.2613	1	EA	RES, 1/8W 1% 2.61 K 200V CHP THK FLM SMT1206	R303
16	60.9463.6193	1	EA	RES, 1/8W 1% 6.19 K 200V CHP THK FLM S- MT1206	R411
17	60.9463.9313	1	EA	RES, 1/8W 1% 9.31 K 200V CHP THK FLM S- MT1206	R420
18	60.9463.9315	1	EA	RES, 1/8W 1% 931.0 K 200V CHP THK FLM S- MT1206	R427
19	60.9464.1003	1	EA	RES, 1/8W 5% 1.0 K 200V CHP THK FLM S- MT1206	R406
20	60.9464.2003	1	EA	RES, 1/8W 5% 2.0 K 200V CHP THK FLM S- MT1206	R413

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No.	Item	Qty.	UM.	Description	Ref.
21	60.9464.2004	9	EA	RES, 1/8W 5% 20.0 K 200V CHP THK FLM S-MT1206	R308, R309, R402, R417, R418, R424, R425, R426 & R428
22	60.9464.2005	1	EA	RES, 1/8W 5% 200.0 K 200V CHP THK FLM S-MT1206	R422
23	60.9464.2703	1	EA	RES, 1/8W 5% 2.7 K 200V CHP THK FLM S-MT1206	R416
24	60.9464.3002	2	EA	RES, 1/8W 5% 300.0 OHM 200V CHP THK FLM S-MT1206	R403 & R404
25	60.9464.3005	1	EA	RES, 1/8W 5% 300.0 K 200V CHP THK FLM S-MT1206	R429
26	60.9464.4703	2	EA	RES, 1/8W 5% 4.7 K 200V CHP THK FLM S-MT1206	R430 & R431
27	60.9464.4704	1	EA	RES, 1/8W 5% 47.0 K 200V CHP THK FLM S-MT1206	R423
28	60.9464.6804	1	EA	RES, 1/8W 5% 68.0 K 200V CHP THK FLM S-MT1206	R302
29	60.9464.7505	1	EA	RES, 1/8W 5% 750.0 K 200V CHP THK FLM S-MT1206	R421
30	60.9464.8204	1	EA	RES, 1/8W 5% 82.0 K 200V CHP THK FLM S-MT1206	R305
31	62.3009.0473	1	EA	CAP, .047UF 50V 10% MONO CER CHIP SUR MT	C417
32	62.4000.0102	1	EA	CAP, 1000PF 50V 5% CER CHIP MONO COG	C309
33	62.4000.0105	14	EA	CAP, .1UF 50V 20% CER CHIP SUR MT Z5U EIA0805	C305, C306, C307, C310, C312, C404, C407, C408, C419, C421, C422, C423, C426 & C427
34	62.4000.0331	1	EA	CAP, 330PF 50V 5% CER CHIP SUR MT COG EIA0805	C413
35	62.4003.0102	3	EA	CAP, 1000PF 50V 10% CER CHIP SUR MT X7R EIA0805	C416, C418 & C425
36	62.4003.0221	1	EA	CAP, 220PF 50V 10% CER CHIP SUR MT X7R 0805	C302
37	62.4003.0331	1	EA	CAP, 330PF 50V 10% CER CHIP SUR MT X7R 0805	C313
38	62.4004.0221	1	EA	CAP, 220PF 50V 20% CER CHIP SUR MT X7R EIA0805	C403
39	62.4004.0222	1	EA	CAP, 2200PF 50V 20% CER CHIP SUR MT X7R EIA0805	C415
40	62.4005.0101	2	EA	CAP, 100PF 50V 10% CER CHIP SUR MT COG 0805	C410, C411 & C429

No.	Item	Qty.	UM.	Description	Ref.
41	62.4005.0220	1	EA	CAP, 22PF 50V 10% CER CHIP SUR MT COG 0805	C301
42	62.4005.0330	1	EA	CAP, 33PF 50V 10% CER CHIP SUR MT COG 0805	C428
43	62.4006.0222	1	EA	CAP, 2200PF 50V 5% CER CHIP SUR MT X7R 0805	C401
44	62.4007.0474	2	EA	CAP, .47UF 50V 20% CER CHIP SUR MT Z5U 1210	C304 & C402
45	62.4221.0105	1	EA	CAP, 1UF 50V 20% ALUM ELECTRO SUR MT	C412
46	62.4223.0475	5	EA	CAP, 4.7UF 50V ALUM ELECTRO SUR MT LOW ESR	C308, C405, C406, C420 & C424
47	62.4224.0107	1	EA	CAP, 100UF 35V 20% AL ELEC 8MM DIA 105C S-MT	C409
48	63.2049.0002	1	EA	POT, 1K OHM 1/4W 10% MULTI-TURN SMT	R410
49	82.4327.0001	2	EA	DIODE, 1N5819M RECTIFIER GLASS MELF	D301 & D403
50	82.5344.0001	1	EA	DIODE, GLL4740A ZENER	D401
51	82.5345.0001	1	EA	DIODE, GLL4736A ZENER	D402
52	82.5346.0001	6	EA	DIODE, LL4148 SMALL SIGNAL	D404-D409
53	83.3201.0001	1	EA	IC, LM293D DUAL OP-AMP/DUAL COMPARATOR 14PIN DIP	U402
54	83.3202.0001	1	EA	IC, LM258D DUAL DIFFERENTIAL	U404
55	85.5157.0001	1	EA	IC, UC2854ADW PREREGULATOR 16PIN SOIC	U301
56	85.5160.0001	1	EA	IC, UCC2305DW HID LAMP CONTROLLER	U401
57	86.6120.0001	1	EA	IC, LTV817S PHOTOCOUPLER SUR MT	U403



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Figure 3-45: 400/625W Ballast Rider Board PCB Assembly

700W Ballast Rider Board PCB Assembly

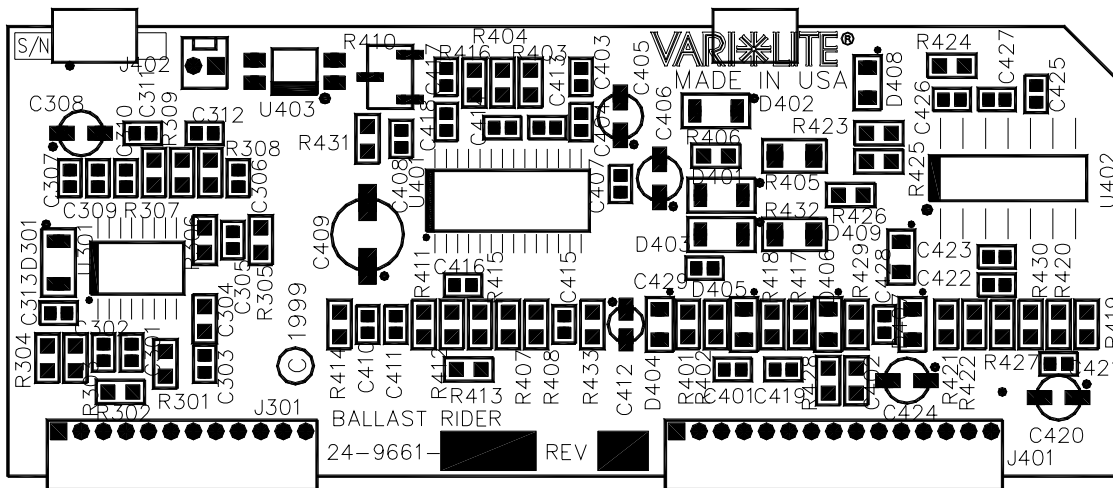
24.9661.1131 Rev B

Refer to Figure 3-46.

No.	Item	Qty.	UM.	Description	Ref.
1	10.9661.1355	2	EA	STABILIZING EXTRUSION, APS RIDER BD PCB	
2	11.9661.1111	1	EA	PCB, BALLAST RIDER	
3	52.6297.0001	1	EA	HEADER, 2PIN MTA FRCT LOK STRT POST	J402
4	52.6576.0012	1	EA	CONN, 12 CIR .100" PC BOARD	J301
5	52.6576.0015	1	EA	CONN, 15 CIR .100" PC BOARD	J401
6	60.0460.1004	1	EA	RES, 1/8W 5% 10.0 K THK FLM CHIP SUR MT EIA-1206	R401
7	60.9462.1003	2	EA	RES, 1/2W 5% 1.0 K 200V CHIP THK FLM SMT2010	R405, R432
8	60.9463.0000	1	EA	RES, 1/8W ZERO OHM 200V CHP THK FLM S-MT1206	R433
9	60.9463.1004	1	EA	RES, 1/8W 1% 10.0 K 200V CHP THK FLM S-MT1206	R306
10	60.9463.1005	1	EA	RES, 1/8W 1% 100.0 K 200V CHP THK FLM S-MT1206	R408
11	60.9463.1215	1	EA	RES, 1/8W 1% 121.0 K 200V CHP THK FLM S-MT1206	R407
12	60.9463.1474	2	EA	RES, 1/8W 1% 14.7 K 200V CHP THK FLM SMT1206	R301, R304
13	60.9463.1624	1	EA	RES, 1/8W 1% 16.2 K 200V CHP THK FLM S-MT1206	R412
14	60.9463.2004	1	EA	RES, 1/8W 1% 20.0 K 200V CHP THK FLM S-MT1206	R419
15	60.9463.2153	1	EA	RES, 1/8W 1% 2.15 K 200V CHP THK FLM SMT1206	R303
16	60.9463.2744	1	EA	RES, 1/8W 1% 27.4 K 200V CHP THK FLM SMT1206	R307
17	60.9463.7503	1	EA	RES, 1/8W 1% 7.50 K 200V CHP THK FLM SMT1206	R411
18	60.9463.9313	1	EA	RES, 1/8W 1% 9.31 K 200V CHP THK FLM S-MT1206	R420
19	60.9463.9315	1	EA	RES, 1/8W 1% 931.0 K 200V CHP THK FLM S-MT1206	R427
20	60.9464.1003	1	EA	RES, 1/8W 5% 1.0 K 200V CHP THK FLM S-MT1206	R406

No.	Item	Qty.	UM.	Description	Ref.
21	60.9464.2003	1	EA	RES, 1/8W 5% 2.0 K 200V CHP THK FLM S-MT1206	R413
22	60.9464.2004	9	EA	RES, 1/8W 5% 20.0 K 200V CHP THK FLM S-MT1206	R308, R309, R402, R417, R418, R424, R425, R426, R428
23	60.9464.2005	1	EA	RES, 1/8W 5% 200.0 K 200V CHP THK FLM S-MT1206	R422
24	60.9464.2703	1	EA	RES, 1/8W 5% 2.7 K 200V CHP THK FLM S-MT1206	R416
25	60.9464.3002	2	EA	RES, 1/8W 5% 300.0 OHM 200V CHP THK FLM S-MT1206	R403, R404
26	60.9464.3005	1	EA	RES, 1/8W 5% 300.0 K 200V CHP THK FLM S-MT1206	R429
27	60.9464.3604	1	EA	RES, 1/8W 5% 36.0 K 200V CHP THK FLM SMT1206	R423
28	60.9464.4703	2	EA	RES, 1/8W 5% 4.7 K 200V CHP THK FLM S-MT1206	R430, R431
29	60.9464.4704	1	EA	RES, 1/8W 5% 47.0 K 200V CHP THK FLM S-MT1206	R302
30	60.9464.7505	1	EA	RES, 1/8W 5% 750.0 K 200V CHP THK FLM S-MT1206	R421
31	60.9464.8204	1	EA	RES, 1/8W 5% 82.0 K 200V CHP THK FLM S-MT1206	R305
32	62.3009.0473	1	EA	CAP, .047UF 50V 10% MONO CER CHIP SUR MT	C417
33	62.4000.0102	1	EA	CAP, 1000PF 50V 5% CER CHIP MONO COG	C309
34	62.4000.0105	14	EA	CAP, .1UF 50V 20% CER CHIP SUR MT Z5U EIA0805	C305, C306, C307, C310, C312, C404, C407, C408, C419, C421, C422, C423, C426, C427
35	62.4000.0331	1	EA	CAP, 330PF 50V 5% CER CHIP SUR MT COG EIA0805	C413
36	62.4003.0102	3	EA	CAP, 1000PF 50V 10% CER CHIP SUR MT X7R EIA0805	C416, C418, C425
37	62.4003.0331	1	EA	CAP, 330PF 50V 10% CER CHIP SUR MT X7R 0805	C313
38	62.4003.0471	1	EA	CAP, 470PF 50V 10% CER CHIP SUR MT X7R 0805	C302
39	62.4004.0221	1	EA	CAP, 220PF 50V 20% CER CHIP SUR MT X7R EIA0805	C403
40	62.4004.0222	1	EA	CAP, 2200PF 50V 20% CER CHIP SUR MT X7R EIA0805	C415

No.	Item	Qty.	UM.	Description	Ref.
41	62.4005.0101	3	EA	CAP, 100PF 50V 10% CER CHIP SUR MT COG 0805	C410, C411, C429
42	62.4005.0330	1	EA	CAP, 33PF 50V 10% CER CHIP SUR MT COG 0805	C428
43	62.4005.0470	1	EA	CAP, 47PF 50V 10% CER CHIP SUR MT COG 0805	C301
44	62.4006.0222	1	EA	CAP, 2200PF 50V 5% CER CHIP SUR MT X7R 0805	C401
45	62.4007.0474	2	EA	CAP, .47UF 50V 20% CER CHIP SUR MT Z5U 1210	C304, C402
46	62.4221.0105	1	EA	CAP, 1UF 50V 20% ALUM ELECTRO SUR MT	C412
47	62.4223.0475	5	EA	CAP, 4.7UF 50V ALUM ELECTRO SUR MT LOW ESR	C308, C405, C406, C420, C424
48	62.4224.0107	1	EA	CAP, 100UF 35V 20% AL ELEC 8MM DIA 105C S-MT	C409
49	63.2049.0001	1	EA	POT, 500 OHM CERMET 13 TRN SUR MT	R410
50	82.4327.0001	2	EA	DIODE, 1N5819M RECTIFIER GLASS MELF	D301, D403
51	82.5344.0001	1	EA	DIODE, GLL4740A ZENER	D401
52	82.5345.0001	1	EA	DIODE, GLL4736A ZENER	D402
53	82.5346.0001	6	EA	DIODE, LL4148 SMALL SIGNAL	D404-D409
54	83.3201.0001	1	EA	IC, LM293D DUAL OP-AMP/DUAL COMPARATOR 14PIN DIP	U402
55	83.3202.0001	1	EA	IC, LM258D DUAL DIFFERENTIAL	U404
56	85.5157.0001	1	EA	IC, UC2854ADW PREREGULATOR 16PIN SOIC	U301
57	85.5160.0001	1	EA	IC, UCC2305DW HID LAMP CONTROLLER	U401
58	86.6120.0001	1	EA	IC, LTV817S PHOTOCOUPLER SUR M	U403



VIEWED FROM COMPONENT SIDE

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Figure 3-46: 700W Ballast Rider Board PCB Assembly

Cables

Ground Strap Cable Assembly

25.8007.2212 Rev 0

Refer to Figure 3-48.

No.	Item	Qty.	UM.	Description
1	52.8329.0001	2	EA	TERM, RING # 6 22-16 AWG NON-INS
2	73.7130.0002	0.33	FT	WIRE, 7/64" TUBULAR BRAID SILVER-PLATED

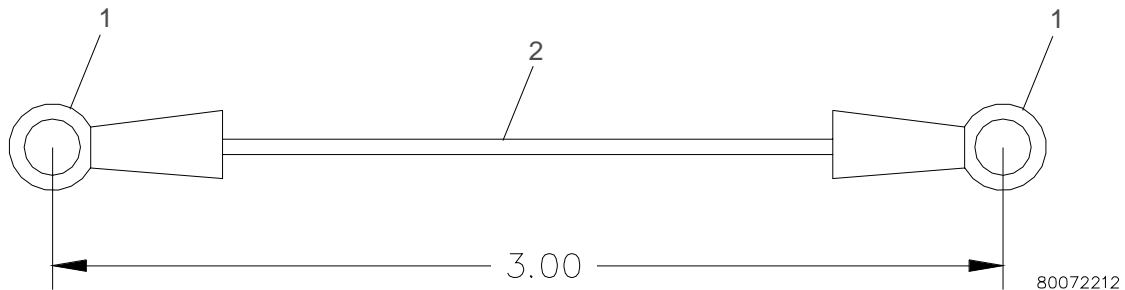


Figure 3-48: Ground Strap Cable Assembly

AC Input Pigtail (Euro) Cable Assembly

25.9661.1511 Rev D

Refer to Figure 3-49.

No.	Item	Qty.	UM.	Description
1	52.6274.2313	1	EA	STRAIN RELIEF, SKINTOP FLEX TYPE PG13 BLK
2	52.6401.2321	1	EA	CONN, PLUG "CE MARKED" 20A 250V TWIST-LOCK MALE LINE, 3-WIRE
3	52.8231.0005	1	EA	TERM, RING #6 BLUE 16-14 AWG REEL PIDG
4	52.8313.0001	2	EA	RCPT, FASTON 1/4" 18-14 AWG FLAG DBL CRP
5	55.2268.0187	.92	FT	HEATSHRINK, 3/16" CLEAR KYNAR VDE UL 600V 150 DEG C
6	55.2268.0500	.13	FT	HEATSHRINK, 1/2" CLEAR KYNAR VDE UL 600V 150 DEG C
7	73.9636.0153	4.0	FT	CORDAGE, 1.5/3 750V 60C EURO BLK HD-22 11mmOD

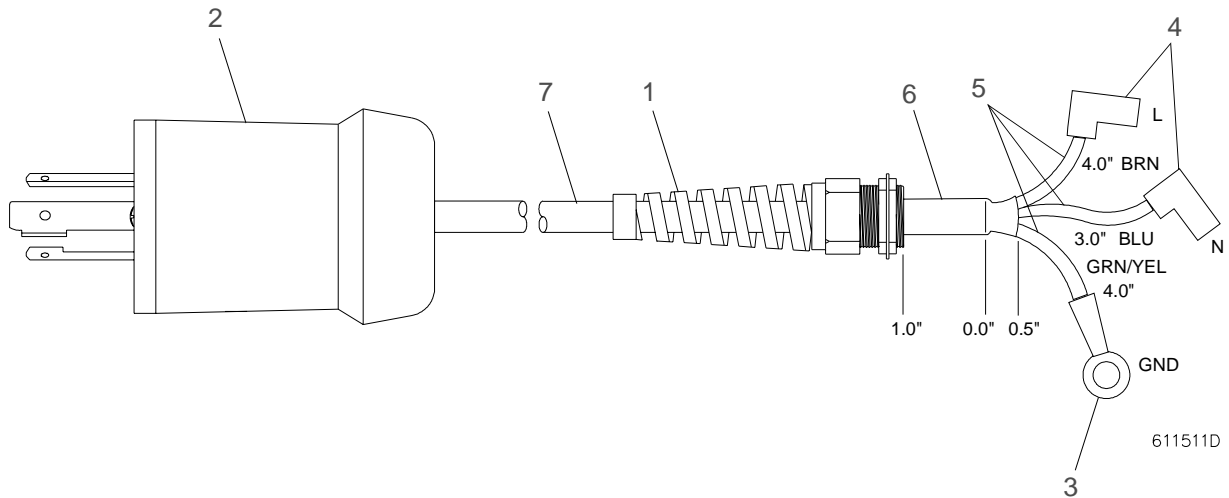


Figure 3-49: AC Input Pigtail (Euro) Cable Assembly

AC Input Link Cable Assembly

25.9661.1512 Rev B

Refer to Figure 3-50.

No.	Item	Qty.	UM.	Description
1	52.8312.0001	2	EA	RECP, FASTON 1/4" 18-14 AWG INSULATED VO
2	52.8313.0001	2	EA	RCPT, FASTON 1/4" 18-14 AWG FLAG DBL CRP
3	55.2186.0001	1	EA	CABLE TIE, .10" WD 4.00" LG SMALL
4	73.6016.0009	6	IN	WIRE, 16AWG 600V 105C PVC WHT UL1015
5	73.6016.0010	6	In	WIRE, 16AWG 600V 105C PVC BLK UL1015

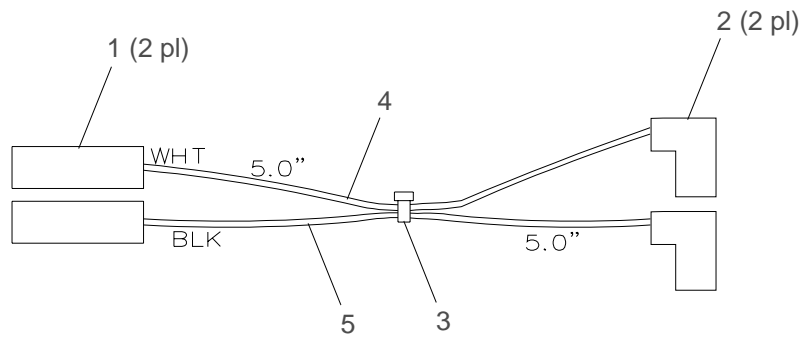


Figure 3-50: AC Input Link Cable Assembly

AC Input Splitter Cable Assembly

25.9661.1513 Rev C

Refer to Figure 3-51.

No.	Item	Qty.	UM.	Description
1	52.6231.0001	1	EA	PLUG HOUSING, MNLOK PLUG 3POS
2	52.6464.0003	1	EA	CONN HOUSING, SL-156 3 POS
3	52.8231.0005	1	EA	TERM, RING #6 BLUE 16-14 AWG REEL PIDG
4	52.8270.0001	2	EA	CONTACT PIN, 20-14 AWG MNLOK (REEL)
5	52.8312.0001	2	EA	RECP, FASTON 1/4" 18-14 AWG INSULATED VO
6	52.8314.0001	1	EA	CONTACT, GROUND PIN 20-14 AWG - MATENLOK
7	52.8323.0001	2	EA	CONTACT, CRIMP 18-22 AWG SL-156
8	55.2186.0001	3	EA	CABLE TIE, .10" WD 4.00" LG SMALL
9	55.6699.0003	1.50	FT	SLEEVING, 1/2" NOM.DIA. POLY EXP BRAIDED
10	73.6016.0009	1.75	FT	WIRE, 16AWG 600V 105C PVC WHT UL1015
11	73.6016.0010	1.75	FT	WIRE, 16AWG 600V 105C PVC BLK UL1015
12	73.6016.0504	0.42	FT	WIRE, 16AWG 600V 105C PVC GRN/YEL UL1015
13	73.6018.0009	0.42	FT	WIRE, 18AWG 600V 105C PVC WHT UL1015
14	73.6018.0010	0.42	FT	WIRE, 18AWG 600V 105C PVC BLK UL1015

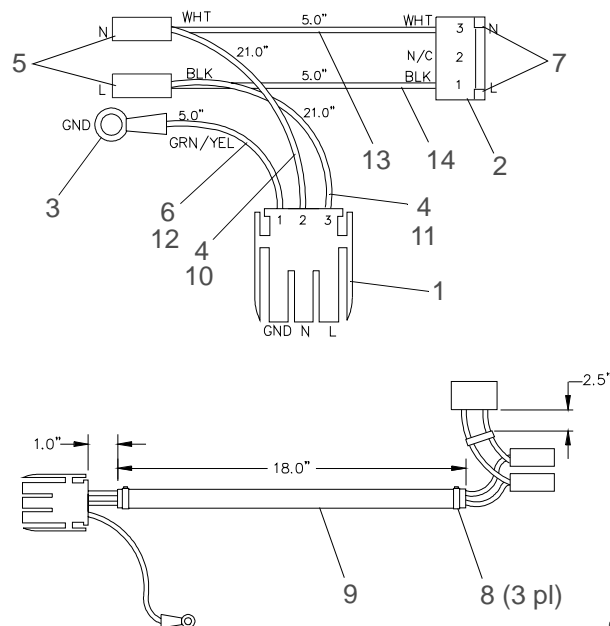


Figure 3-51: AC Input Splitter Cable Assembly

LVS Chassis Ground Cable Assembly

25.9661.1514 Rev A

Refer to Figure 3-52.

No.	Item	Qty.	UM.	Description
1	52.8231.0005	1	EA	TERM, RING #6 BLUE 16-14 AWG REEL PIDG
2	52.8271.0001	1	EA	FASTON RECEPT, 16-14 AWG (REEL)
3	73.3516.0504	3.5	IN	WIRE, 16 AWG 300V 105C PVC GRN/YEL UL1569

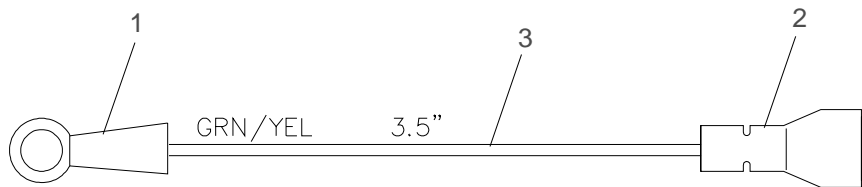


Figure 3-52: LVS Chassis Ground Cable Assembly

Main To Aux/Data & Power Cable Assembly

25.9667.1516.01 Rev - (Formerly 25.9661.1516.01 Rev B)

Refer to Figure 3-53.

No.	Item	Qty.	UM.	Description
1	52.6484.0006	2	EA	RECEPT, 6POS DUAL ROW MINI-FIT JR
2	52.8333.0001	8	EA	CONTACT, FEMALE 18-20 AWG REEL HCS (PWR)
3	52.8333.2228	4	EA	CONTACT, 22-28AWG FEM REEL GOLD MFJR (DATA)
4	55.2186.0001	2	EA	CABLE TIE, .10" WD 4.00" LG SMALL
5	55.6699.0003	2.50	FT	SLEEVING, 1/2" NOM.DIA. POLY EXP BRAIDED
6	73.5114.0406	2.67	FT	WIRE, 24AWG TWISTED PAIR PVC 300V 80C <YEL-BLU> UL106
7	73.7060.0001	5.33	FT	WIRE, 18AWG HIGH VOLT RED YOKE LAMP
8	73.7060.0002	5.33 </td <td>FT</td> <td>WIRE, 18AWG HIGH VOLT BLACK YOKE LAMP</td>	FT	WIRE, 18AWG HIGH VOLT BLACK YOKE LAMP

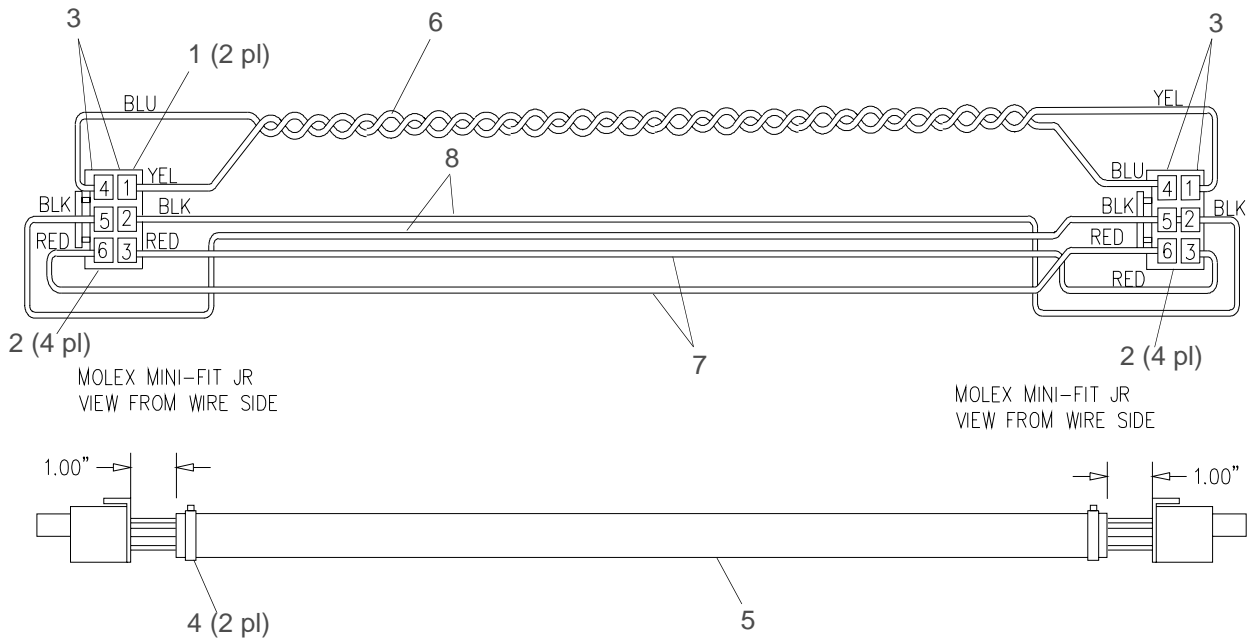


Figure 3-53: Main to Aux/Data & Power Cable Assembly

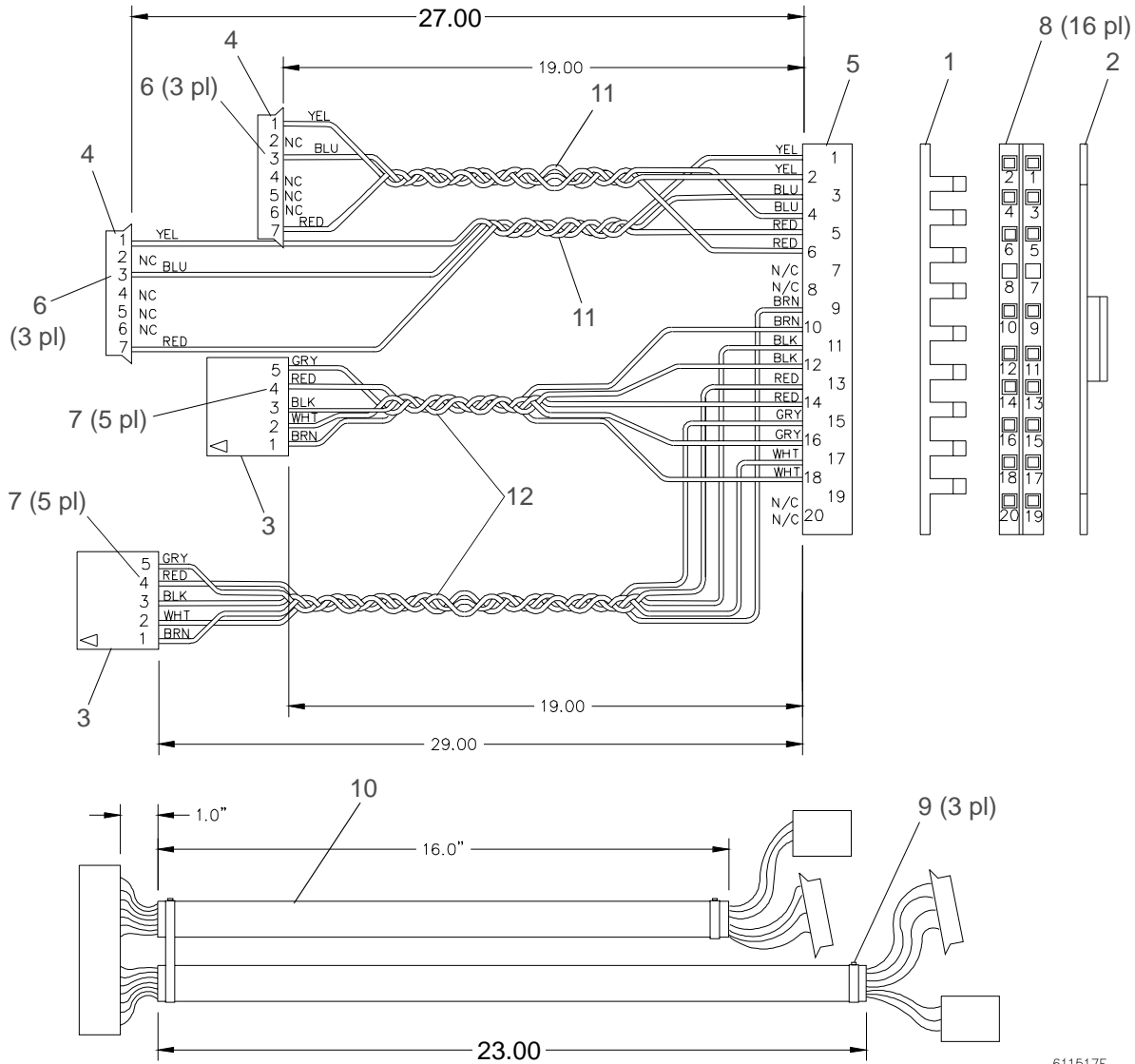
Pan/Tilt Control Cable Assembly

25.9661.1517.01 Rev E

Refer to Figure 3-54.

No.	Item	Qty.	UM.	Description
1	52.6211.0008	1	EA	COVER, BACK SHIELD/NON-SHIELD F/DBL ROW 20POS
2	52.6212.0008	1	EA	COVER, FRONT LATCH F/DBL ROW 20POS
3	52.6524.0005	2	EA	CONN, HOUSING 5POS RECEPTACLE
4	52.6588.0007	2	EA	CONN, HOUSING 7CIR DISCONNECTABLE CRIMP STYLE XH
5	52.6610.0008	1	EA	CONN, HOUSING 20POS DBL ROW UNLOADED
6	52.7007.0001	6	EA	CONTACT, 28-22AWG PHOSPHOR BRONZE TIN-PLT SXH
7	52.8346.0001	10	EA	CONTACT, 24-30AWG FEMALE CRIMP
8	52.8351.0002	16	EA	CONTACT, 26-22AWG RECEPTACLE MTE (REEL)
9	55.2186.0001	3	EA	CABLE TIE, .10" WD 4.00" LG SMALL
10	55.6699.0003	3.30	FT	SLEEVING, 1/2" NOM.DIA. POLY EXP BRAIDED
11	73.5119.0246	3.83	FT	WIRE, 24AWG 3COND TW 600V 200C <RED-YEL-BLU>UL1213
12	73.5121.0001	3.92	FT	CABLE, 24AWG 5COND TW 600V 200C PTFE TEF

Pan/Tilt Control Cable Assembly (cont.)



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Figure 3-54: Pan/Tilt Control Cable Assembly

Lamp Supply Control Cable Assembly

25.9661.1518 Rev A

Refer to Figure 3-55.

No.	Item	Qty.	UM.	Description
1	52.6396.2208	2	EA	RECEPT, 8POS MTA100 W/POL TAB RED CLSD END
2	55.2197.0001	1.25	IN	HEATSHRINK, 3/8" BLACK
3	73.7028.0001	1.67	FT	CBL, 22AWG 8COND

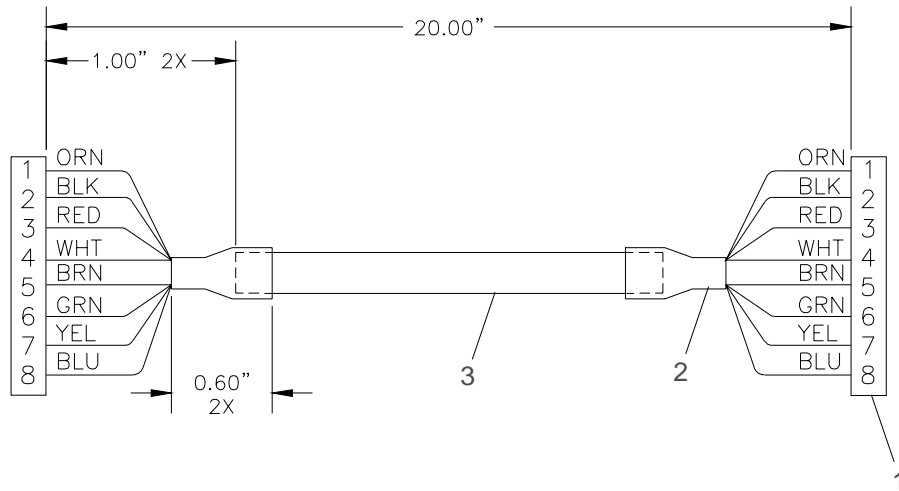


Figure 3-55: Lamp Supply Control Cable Assembly

Chassis To Yoke Ground Cable Assembly

25.9661.1520 Rev A

Refer to Figure 3-56.

No.	Item	Qty.	UM.	Description
1	52.8250.0001	2	EA	TERM, #8, RING, 10AWG
2	73.7089.0504	15.17	FT	WIRE, 22AWG 300V 200C TEF GRN/YEL UL1180



Figure 3-56: Chassis To Yoke Ground Cable Assembly

Lamp Supply OT/NOT On Cable Assembly

25.9661.1531 Rev A

Refer to Figure 3-57.

No.	Item	Qty.	UM.	Description
1	52.6396.2202	1	EA	RECEPT, 2POS MTA100 W/POL TAB RED CLSD END
2	52.6396.2203	1	EA	RECEPT, 3POS MTA100 W/POL TAB RED CLSD END
3	52.6396.2204	1	EA	RECEPT, 4POS MTA100 W/POL TAB RED CLSD END
4	73.3522.0002	1.33	FT	WIRE, 22AWG 300V 105C PVC RED UL1569
5	73.3522.0005	1.33	FT	WIRE, 22AWG 300V 105C PVC GRN UL1569
6	73.3522.0009	1.67	FT	WIRE, 22AWG 300V 105C PVC WHT UL1569
7	73.3522.0010	1.67	FT	WIRE, 22AWG 300V 105C PVC BLK UL1569

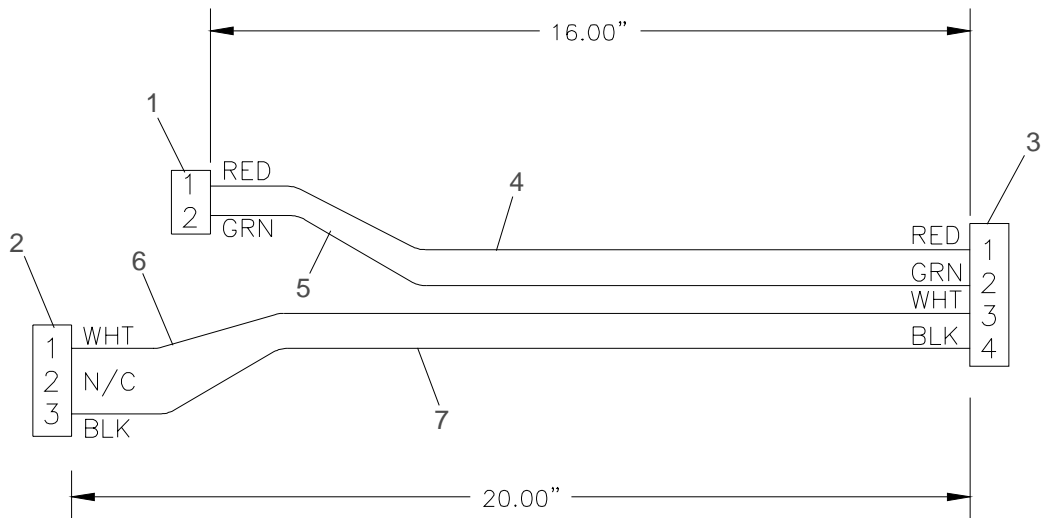


Figure 3-57: Lamp Supply OT/NOT On Cable Assembly

Data I/O Link Cable Assembly

25.9661.1532 Rev A

Refer to Figure 3-58.

No.	Item	Qty.	UM.	Description
1	52.6524.0005	2	EA	CONN, HOUSING 5POS RECEPTACLE
2	52.8346.0001	10	EA	CONTACT, 24-30AWG FEMALE CRIMP
3	55.2199.0001	0.10	FT	HEATSHRINK, 1/16" BLACK
4	55.2200.0001	0.08	FT	HEATSHRINK, 3/16" BLACK
5	73.7039.0001	0.33	FT	CBL, 22AWG STRND 4COND POLYPR INSUL

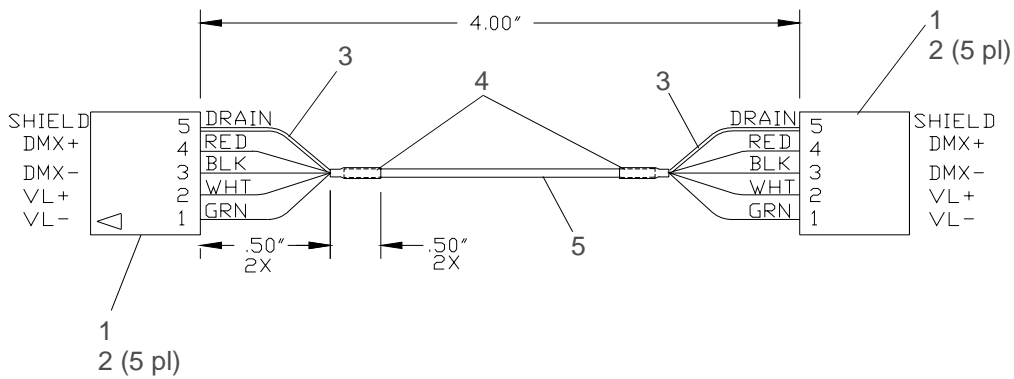


Figure 3-58: Data I/O Link Cable Assembly

DC Output Cable Assembly

25.9661.1543 Rev 0

Refer to Figure 3-59.

No.	Item	Qty.	UM.	Description
1	52.6464.0002	1	EA	CONN HOUSING, SL-156 2 POS
2	52.6484.0004	1	EA	RECEPT, 4 POS DUAL ROW MINI-FIT JR
3	52.8298.0002	3	EA	TERM, WIRE PIN 16-14AWG
4	52.8323.0001	2	EA	CONTACT, CRIMP 18-22AWG SL-156
5	52.8333.0001	2	EA	CONTACT, FEMALE 18-20 AWG REEL HCS
6	73.3518.0002	2.3	FT	WIRE, 18AWG 300V 105C PVC RED UL1569
7	73.3518.0010	2.3	FT	WIRE, 18AWG 300V 105C PVC BLK UL1569

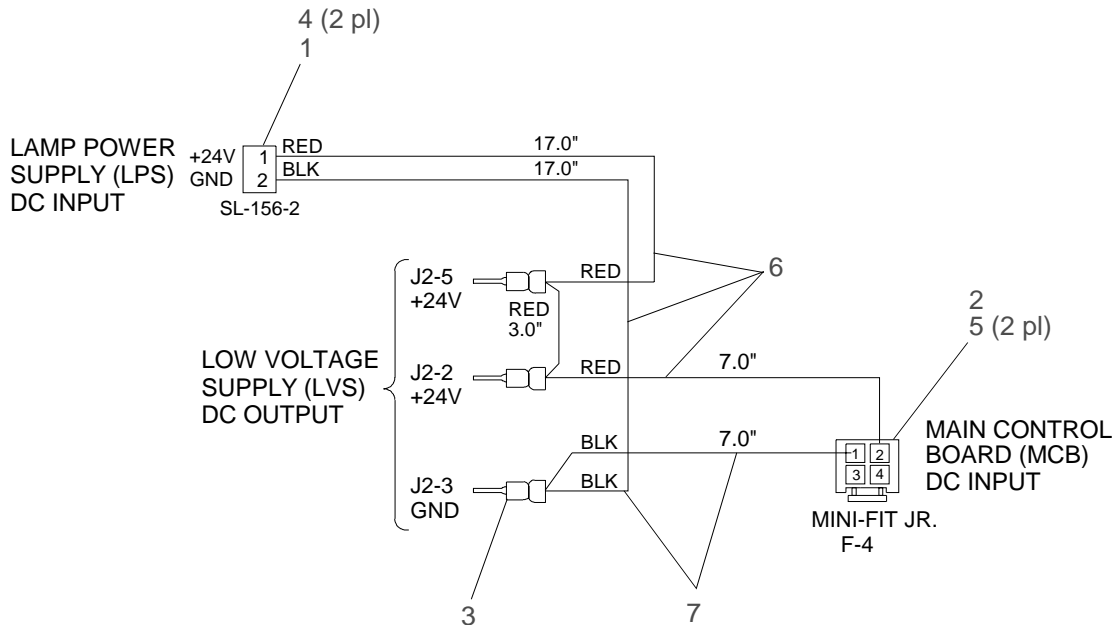


Figure 3-59: DC Output Cable Assembly

Lamp Supply Harness Cable Assembly

25.9661.1551.01 Rev 0 (Formerly 25.9661.1544.01)

Refer to Figure 3-60.

No.	Item	Qty.	UM.	Description
1	25.9661.1518	1	EA	CABLE ASSY, LAMP SUPPLY CONTROL
2	25.9661.1531	1	EA	LAMP SUPPLY OT/ NOT ON
3	25.9661.1550	1	EA	CABLE ASSY, DC OUTPUT-VLT130
4	55.2186.0001	2	EA	CABLE TIE, .10" WD 4.00" LG SMALL
5	55.6699.0003	.67	FT	SLEEVING, 1/2" NOM. DIA. POLY EXP BRAIDED

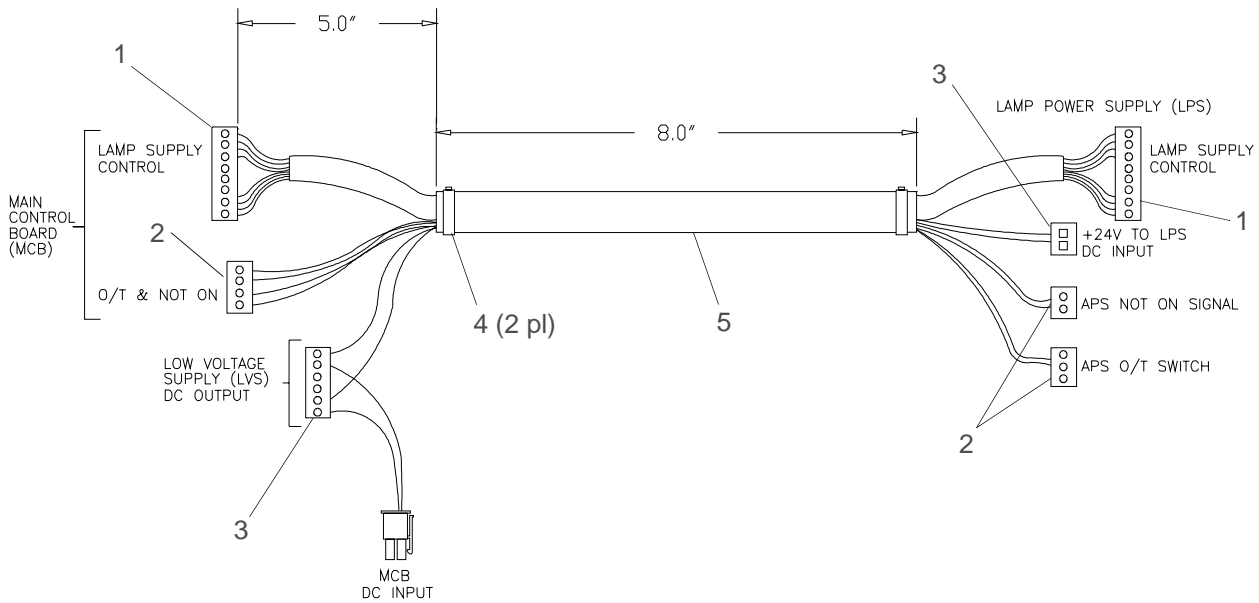


Figure 3-60: Lamp Supply Harness Cable Assembly

Motor Harness Cable Assembly

25.9667.0007 Rev H

Refer to Figure 3-61.

No.	Item	Qty.	UM.	Description
1	04.9673.0041.00	1	EA	LABEL SET, 2200 SERIES MOTOR HARNESS
2	52.6211.0017	2	EA	COVER, BACK SHIELD/NON-SHIELD F/DBL ROW 50-POS
3	52.6212.0017	2	EA	COVER, FRONT LATCH F/DBL ROW 50-POS
4	52.6396.2403	2	EA	RECEPT, 3-POS MTA100 W/POL TAB 24AWG CLSD END
5	52.6467.0004	1	EA	CONN, FEM PLUG 4-POS 30-24 AWG CRIMP PHR
6	52.6467.0011	6	EA	CONN, FEM PLUG 11-POS 30-24 AWG CRIMP PHR
7	52.6467.0024	28	EA	CONTACT, SOCKET 30-24 AWG CRIMP (REEL) PH (JST)
8	52.6524.0004	2	EA	CONN, HOUSING 4-POS RECEPTACLE
9	52.6524.0005	1	EA	CONN, HOUSING 5-POS RECEPTACLE
10	52.6524.0006	1	EA	CONN, HOUSING 6-POS RECEPTACLE
11	52.6610.0017	2	EA	CONN, HOUSING 50-POS DBL ROW UNLOADED
12	52.8230.0002	2	EA	TERM, 1/4" FASTON 22-18 AWG
13	52.8271.0010	1	EA	RECEPT, FASTON 24-22 AWG NON-INSUL FITS .016" TAB 110SERIES
14	52.8346.0001	18	EA	CONTACT, 24-30 AWG FEMALE CRIMP
15	52.8351.0001	100	EA	CONTACT, 26-22 AWG RECEPTACLE MTE (LOOSE)
16	55.2186.0001	15	EA	CABLE TIE, .10" WD 4.00" LG SMALL
17	55.6699.0003	1	FT	SLEEVING, 1/2" NOM. DIA. POLY EXP BRAIDED
18	73.2624.0008	1.83	FT	WIRE, 24 AWG 600V 200C TEF GRY TYPE E
19	73.3524.0002	5.92	FT	WIRE, 24 AWG 300V 105C PVC RED UL1007
20	73.3524.0007	2.30	FT	WIRE, 24 AWG 300V 105C PVC VIO UL1007
21	73.3524.0009	2.21	FT	WIRE, 24 AWG 300V 105C PVC WHT UL1007
22	73.3524.0010	7.13	FT	WIRE, 24 AWG 300V 105C PVC BLK UL1007
23	73.5155.0246	5.00	FT	WIRE, 24 AWG 3 COND TW 300V 80C <RED-YEL-BLU> UL1061
24	73.5116.0123	22.79	FT	WIRE, 24 AWG 4 COND TW 300V 80C <BLK-BRN-RED-ORG> UL1061

Motor Harness Cable Assembly (cont.)

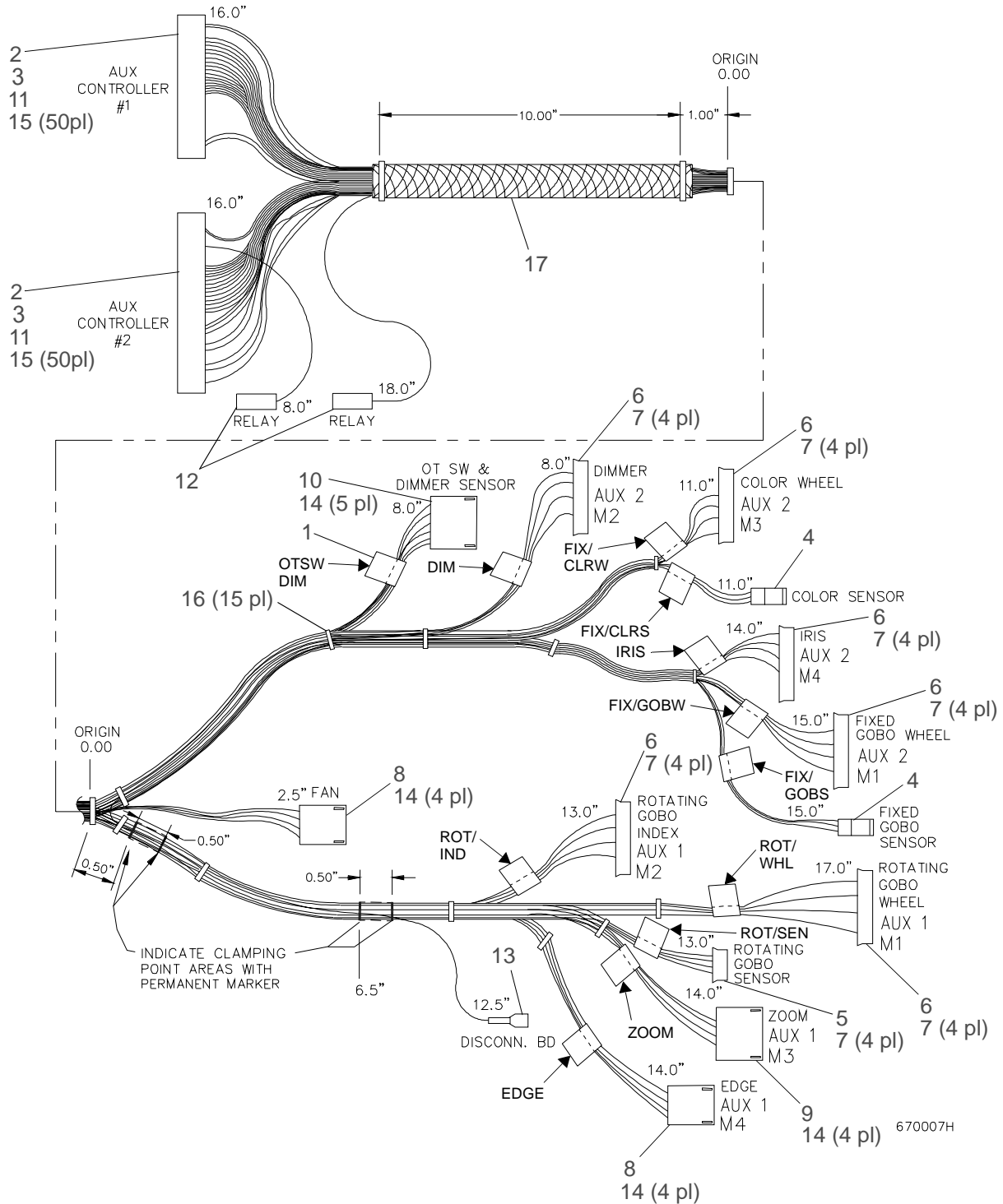


Figure 3-61: Motor Harness Cable Assembly

Yoke To Head Ground Cable Assembly

25.9667.0028 Rev 0

Refer to Figure 3-62.

No.	Item	Qty.	UM.	Description
1	52.8250.0001	2	EA	TERM, #8 RING, 10AWG
2	73.7089.0504	14	FT	WIRE, 22AWG 300V 200C TER GRN/YEL UL1180



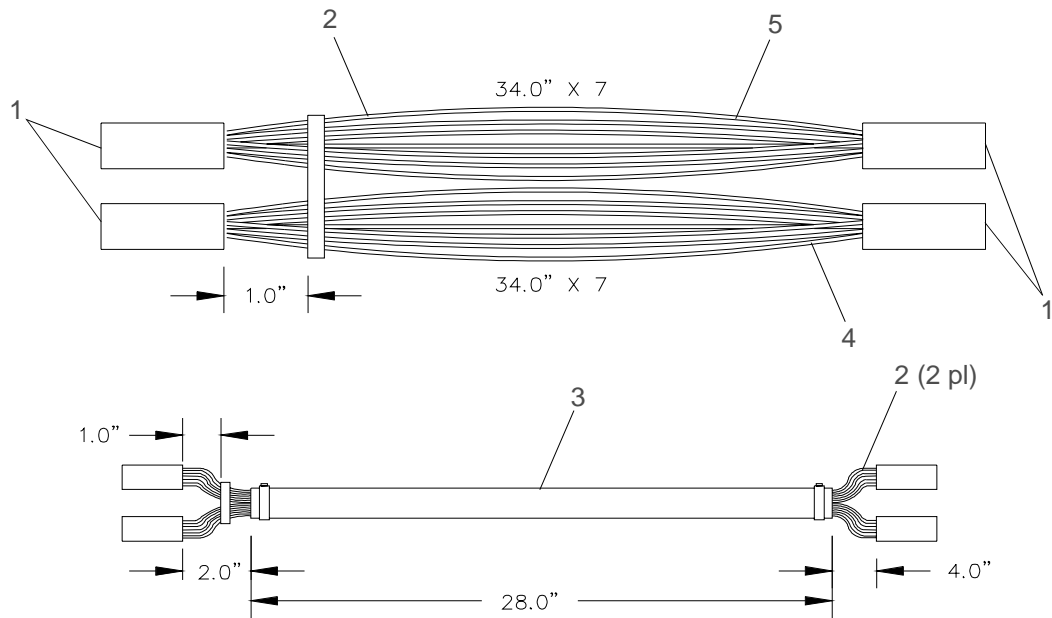
Figure 3-62: Yoke To Head Ground Cable Assembly

Lamp Supply To Relay Cable Assembly

25.9667.0029 Rev D

Refer to Figure 3-63.

No.	Item	Qty.	UM.	Description
1	52.8312.0001	4	EA	RECP, FASTON 1/4" 18-14 AWG INSULATED VO
2	55.2186.0001	3	EA	CABLE TIE, .10" WD 4.00" LG SMALL
3	55.6699.0003	2.33	FT	SLEEVING, 1/2" NOM.DIA. POLY EXP BRAIDED
4	73.7089.0000	19.83	FT	WIRE, 22AWG BLK 300V TEFLON STRANDED
5	73.7089.0009	19.83	FT	WIRE, 22AWG WHT TEFLON STRANDED



670029D

Figure 3-63: Motor Harness Cable Assembly

Ignitor To Relay Cable Assembly

25.9667.0030 Rev A

Refer to Figure 3-64.

No.	Item	Qty.	UM.	Description
1	52.8231.0005	1	EA	TERM, RING #6 BLUE 16-14 AWG REEL PIDG
2	52.8312.0001	1	EA	RECP, FASTON 1/4" 18-14 AWG INSULATED VO
3	73.7101.0009	1	FT	WIRE, 14AWG 15KV 150C SILICONE 41/30 STRANDING



Figure 3-64: Ignitor To Relay Cable Assembly

Head OT Switch #2 Cable Assembly

25.9667.0146 Rev A

Refer to Figure 3-65.

No.	Item	Qty.	UM.	Description
1	52.6523.0002	1	EA	CONN, HOUSING 2POS PLUG SHROUDED WIRE TO WIRE
2	52.8347.0001	2	EA	CONTACT, 24-30AWG MALE CRIMP
3	52.8371.0001	2	EA	RECEPT, FASTON 24-20AWG UNISUL TIN PLT BRS .250 X .032 TAB
4	73.6224.0005	.55	FT	WIRE, 24AWG 600V 200C TFE GRN UL1213 CSA

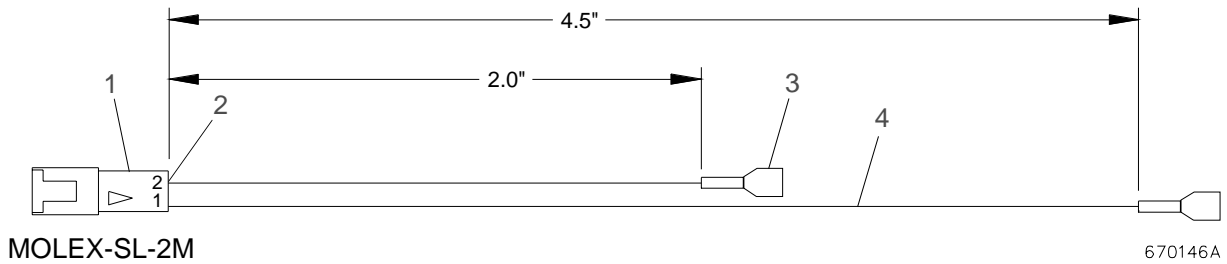


Figure 3-65: Head OT Switch #2 Cable Assembly

DC Output XPiQ Cable Assembly

25.9661.1550 Rev 0

Refer to Figure 3-66.

No.	Item	Qty.	UM.	Description
1	52.6434.1806	1	EA	CONN, 6 POS 18 AWG MTA-156 WO/TABS ORG RECPT
2	52.6464.0002	1	EA	CONN HOUSING, SL-156 2 POS
3	52.6484.0004	1	EA	RECEPT, 4 POS DUAL ROW MINI-FIT JR
4	52.8323.0001	2	EA	CONTACT, CRIMP 18-22 AWG SL-156
5	52.8333.0001	2	EA	CONTACT, FEMALE 18-20 AWG REEL HCS
6	73.3518.0002	2.00	FT	WIRE, 18 AWG 300V 105C PVC RED UL 1569
7	73.3518.0010	2.00	FT	WIRE, 18 AWG 300V 105C BLK UL 1569

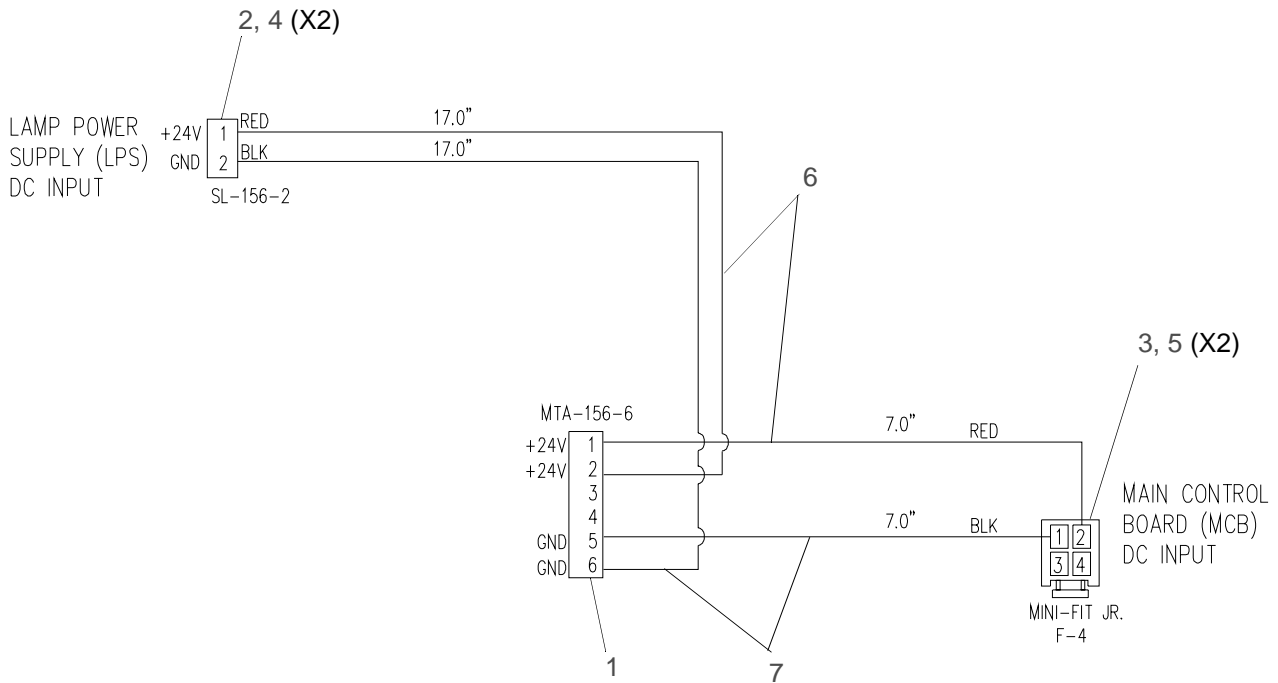


Figure 3-66: DC Output XPiQ Cable Assembly

APPENDIX A.

Technical Bulletins

VL2000 Spot Luminaire Technical Bulletins

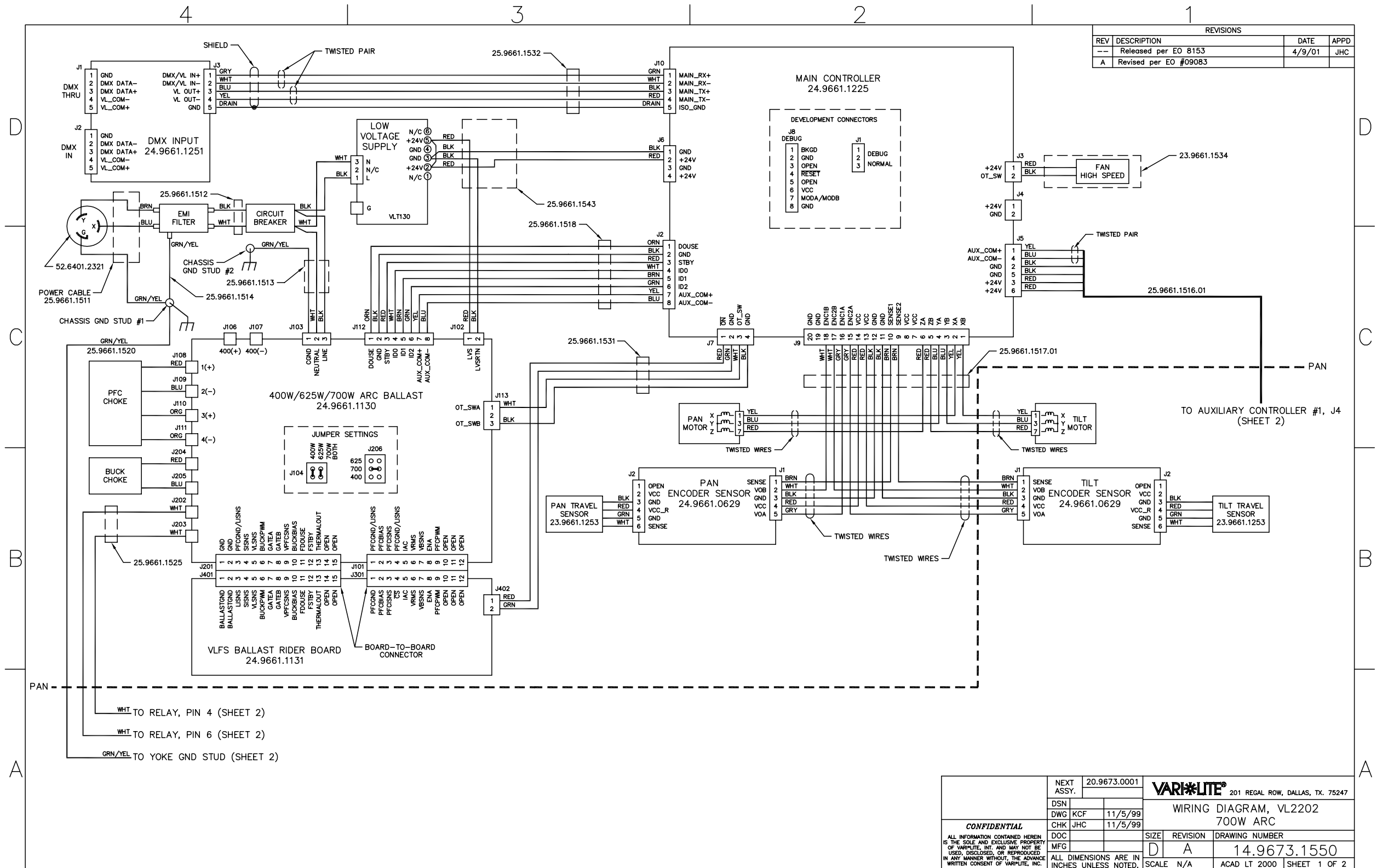
The following table identifies the current technical bulletins associated with the VL2000 spot luminaire. These improvements have been incorporated into this manual.

Technical Bulletin	Description	Associated Luminaire
S2K-002	Removing resistor from ballast PCB	VL2201
S2K-003A	Lamp power supply improvements	VL2201
S2K-004	Removing heatsink pins on Main Controller PCB	VL2201, VL2202
S2K-005	Improvements to the choke insulation	VL2201
S2K-006	Removing plastic bumpers from pan and tilt assemblies	VL2201
S2K-008	Replacing diodes on lamp power supplies	VL2201, VL2202
S2K-014	Modifying wire harness for installation of new style power supply	VL2201, VL2202
S2K-015	Main Controller PCB jumper configuration	VL2201, VL2202
S2K-016	Installation of capacitors for hot restarts	VL2201, VL2202
S2K-017	Installation of washers for vertical hang positions	VL2201, VL2202
S2K-018	Adding stabilizer brackets	VL2201, VL2202
S2K-019	Pan bolt modification	VL2201, VL2202
S2K-021	Changing two diodes on ignitor board	VL2201, VL2202
S2K-022	Auxiliary PCB capacitor change	VL2201, VL2202
V22-001	Motor harness cable clamp addition	VL2201
V22-002	Addition of cable tie block to dimmer bulkhead	VL2201
V22-003	Addition of Iris bearing to dimmer bulkhead	VL2201
V22-004	Lens actuator support bracket	VL2201
V22-005	Road case storage	VL2201
V22-006	Color/Gobo wheel upgrade - split lock washers	VL2201
V22-008	Eliminating jitter in lens barrel assembly	VL2201, VL2202

Technical Bulletins, Software Updates, support, and other information is available online at <http://www.vari-lite.com/Support/>. To request access to the password-

protected support areas, please contact Vari-Lite Customer Service at 1-877-827-4548 or customerservice@vari-lite.com.

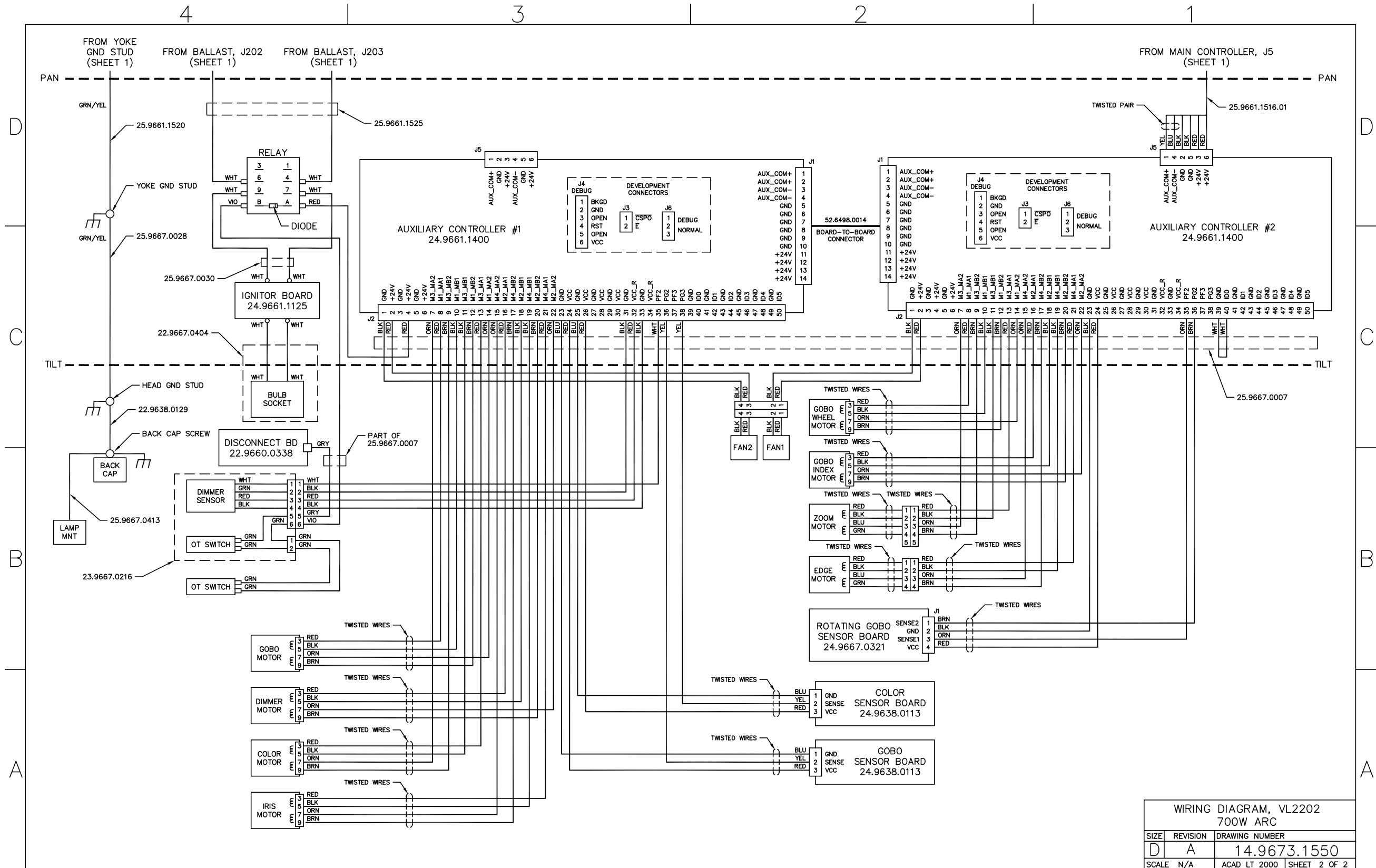
VL2000 Luminaire Wire Diagram (Sheet 1)



REVISIONS			
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--	Released per EO 8153	4/9/01	JHC
A	Revised per EO #09083		

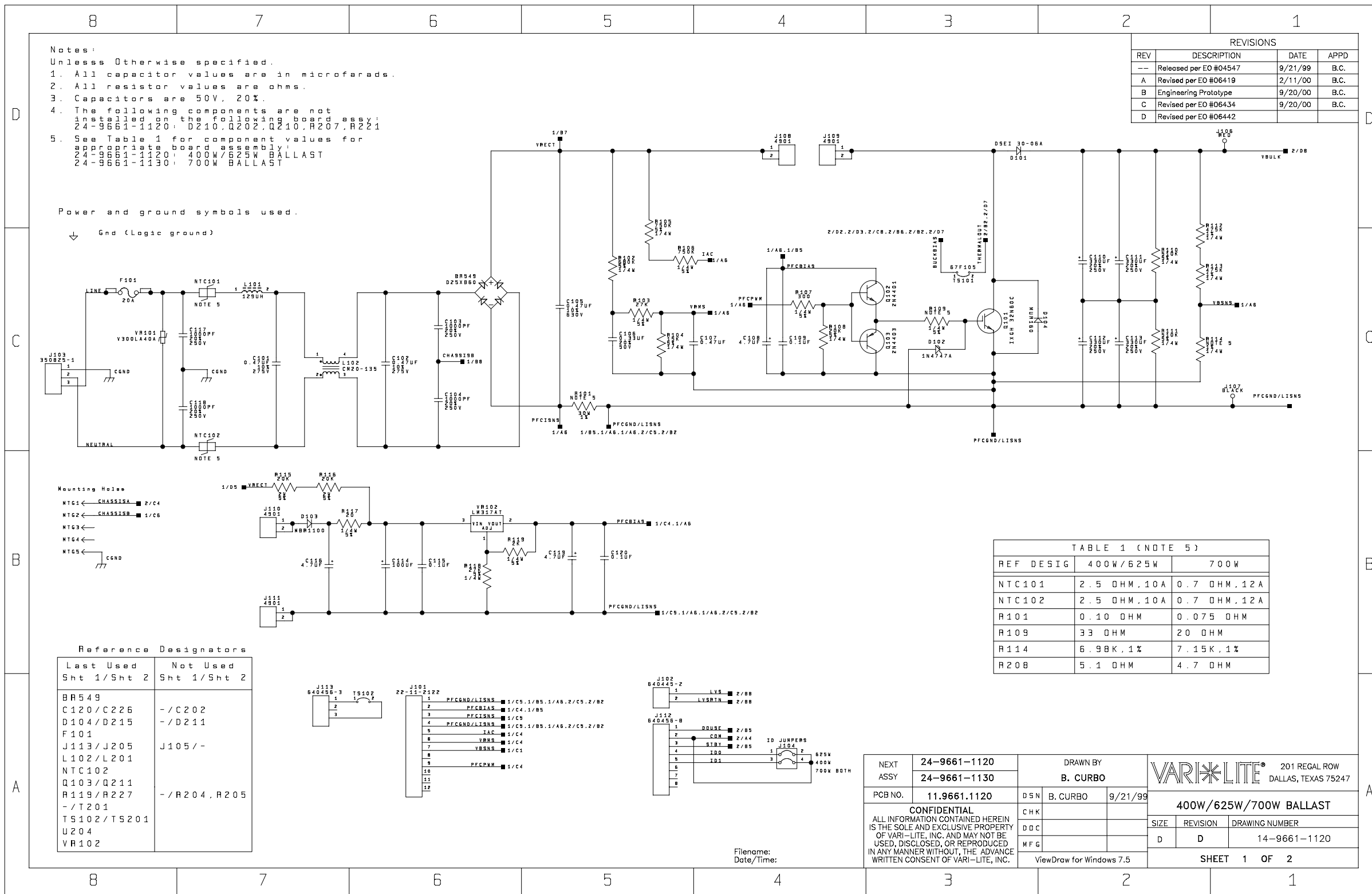
NEXT ASSY.	20.9673.0001	VARI*LITE® 201 REGAL ROW, DALLAS, TX. 75247		
DSN				
DWG	KCF 11/5/99	WIRING DIAGRAM, VL2202 700W ARC		
CHK	JHC 11/5/99			
DOC		SIZE	REVISION	DRAWING NUMBER
MFG		D	A	14.9673.1550
ALL INFORMATION CONTAINED HEREIN IS THE SOLE AND EXCLUSIVE PROPERTY OF VARI*LITE, INT. AND MAY NOT BE USED, DISCLOSED, OR REPRODUCED IN ANY MANNER WITHOUT THE ADVANCE WRITTEN CONSENT OF VARI*LITE, INC.		SCALE		N/A
ALL DIMENSIONS ARE IN INCHES UNLESS NOTED.		ACAD LT 2000		SHEET 1 OF 2

VL2000 Luminaire Wire Diagram (Sheet 2)

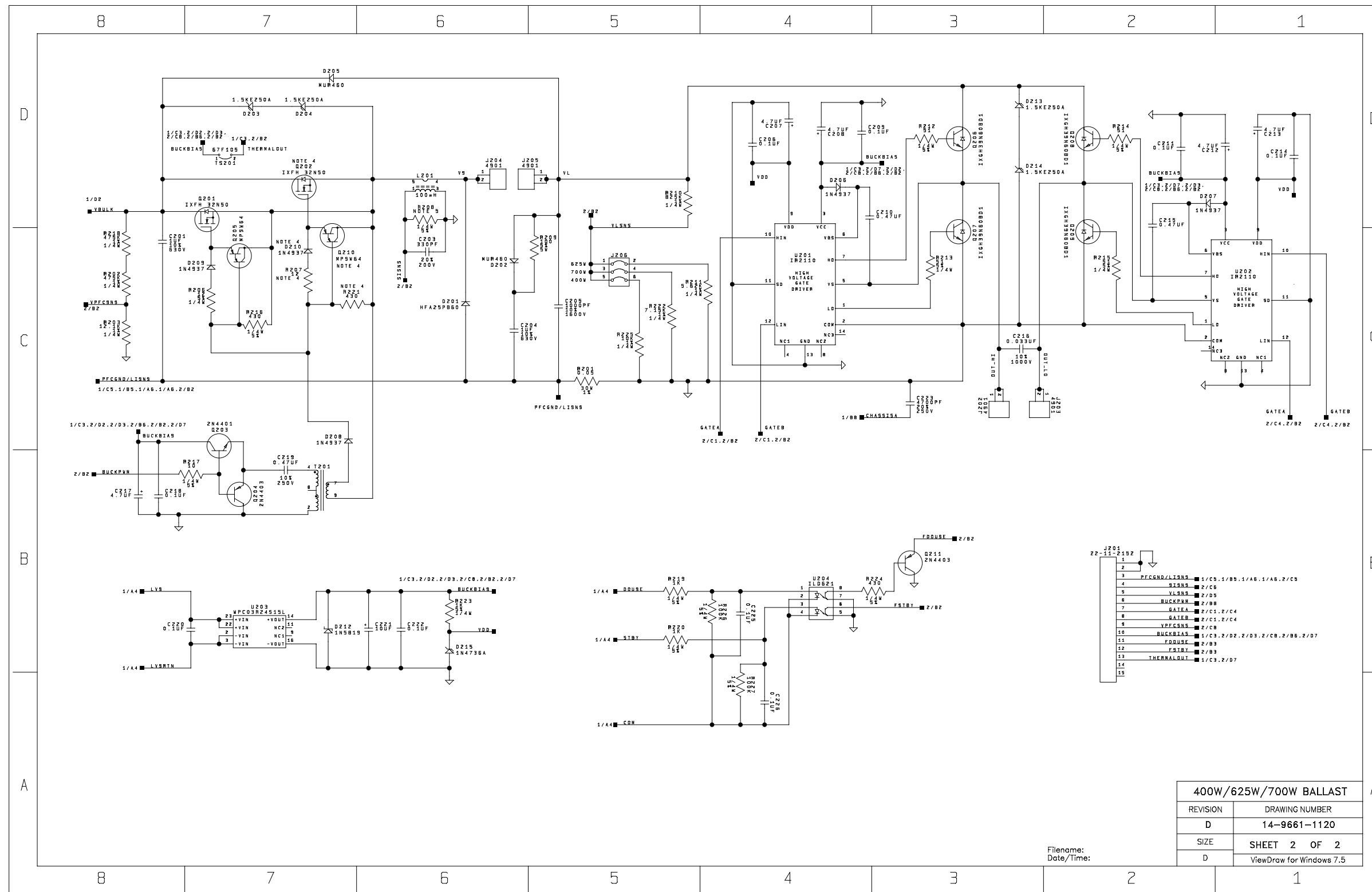


WIRING DIAGRAM, VL2202 700W ARC			
SIZE	REVISION	DRAWING NUMBER	
D	A	14.9673.1550	
SCALE	N/A	ACAD LT 2000	SHEET 2 OF 2

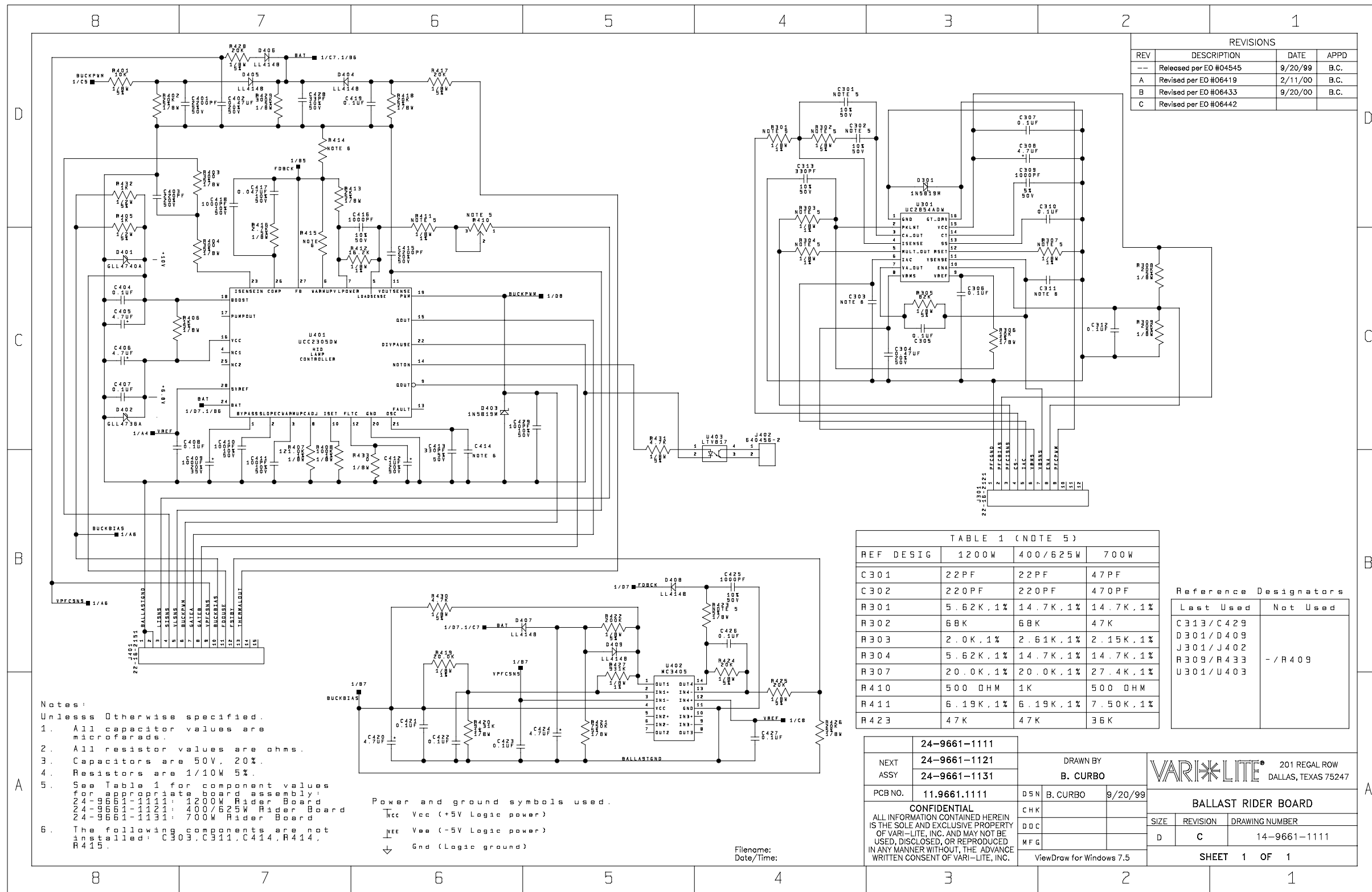
400W/625W/700W Ballast Schematic



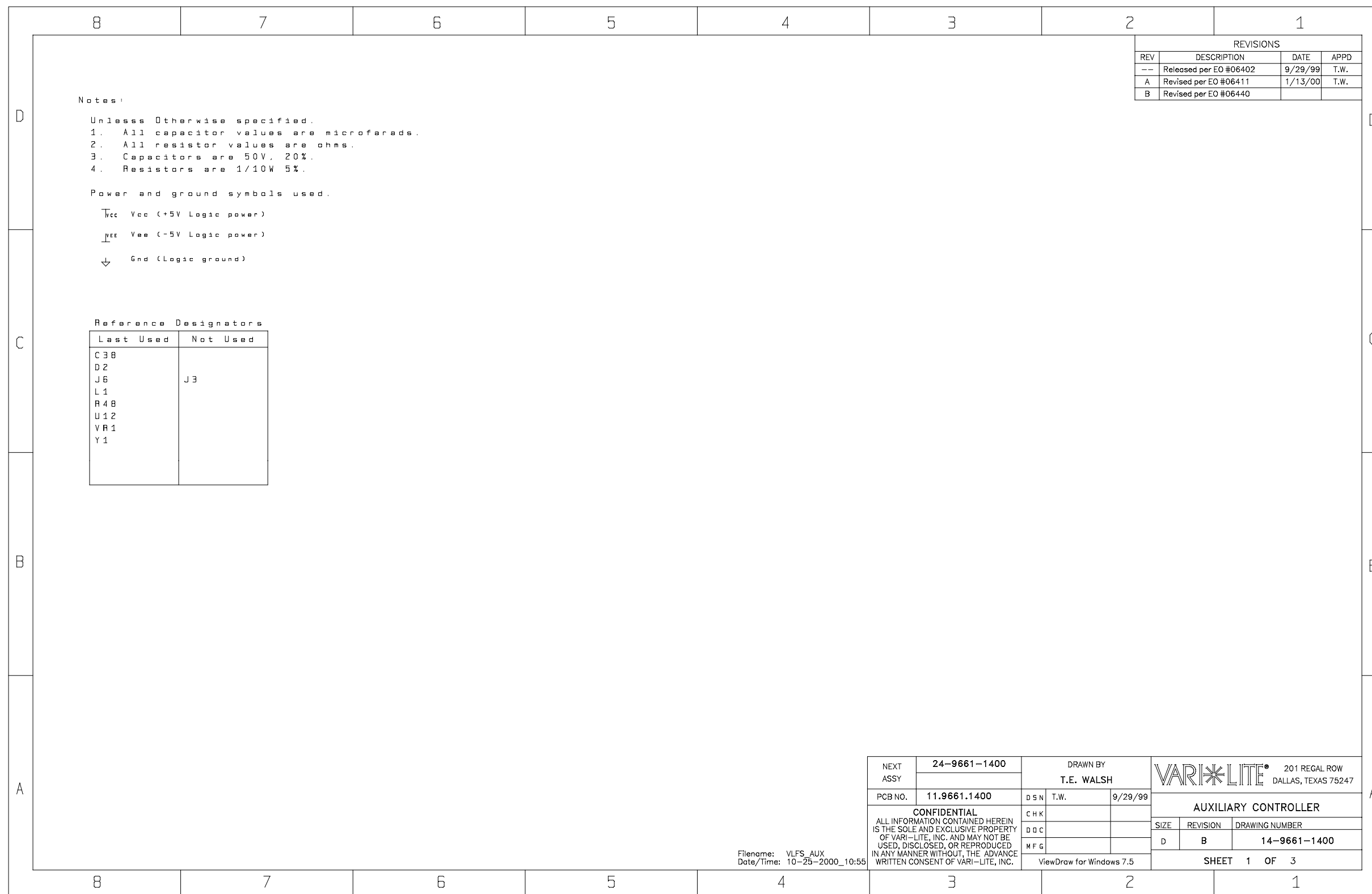
400W/625W/700W Ballast Schematic (cont.)



Ballast Rider Schematic



Auxiliary Controller Schematic

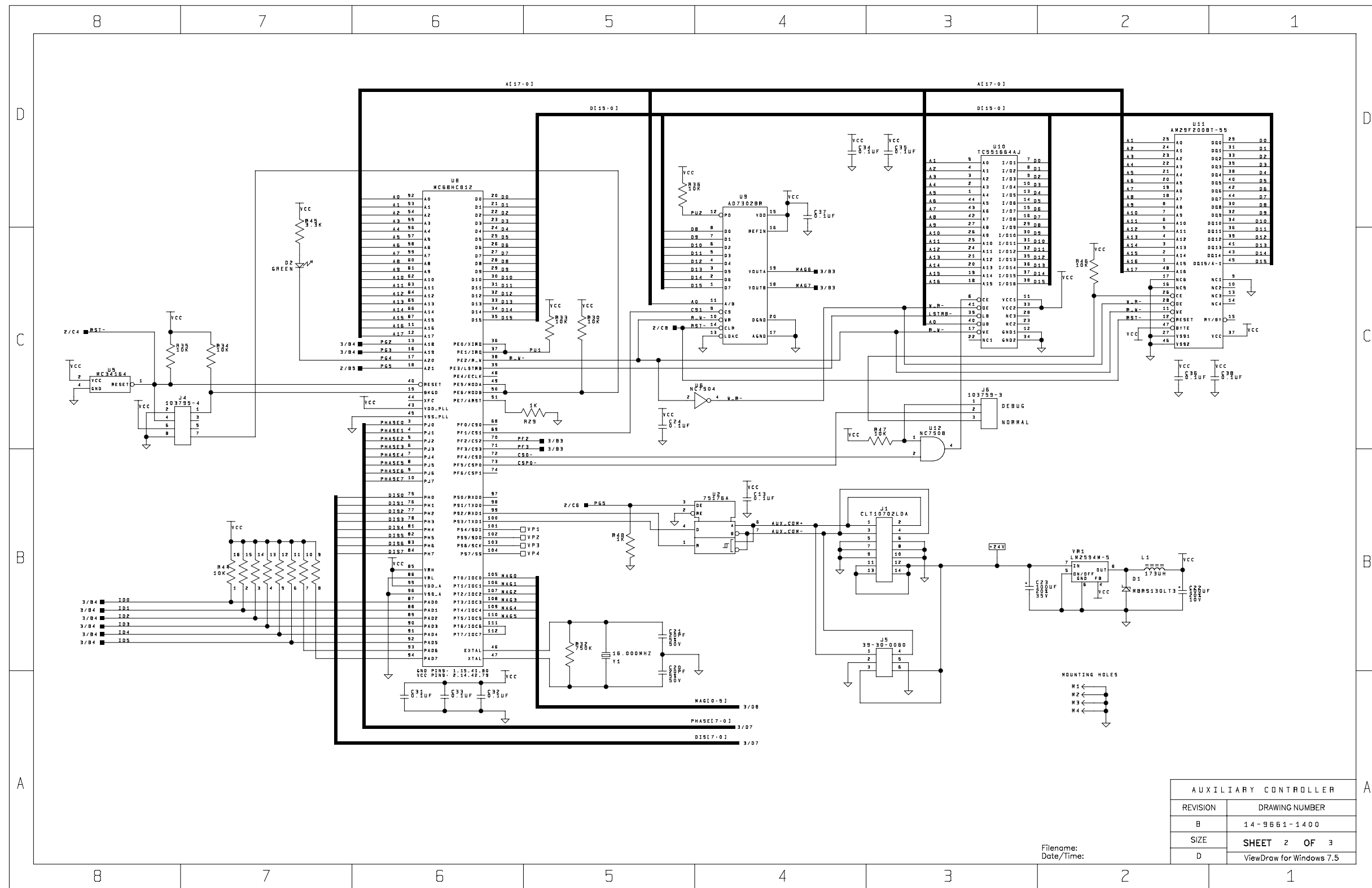


REVISIONS			
REV	DESCRIPTION	DATE	APPD
--	Released per EO #06402	9/29/99	T.W.
A	Revised per EO #06411	1/13/00	T.W.
B	Revised per EO #06440		

NEXT ASSY	24-9661-1400	DRAWN BY T.E. WALSH		VARI*LITE® 201 REGAL ROW DALLAS, TEXAS 75247	
PCB NO.	11.9661.1400	DSN	T.W.	9/29/99	AUXILIARY CONTROLLER
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		DOC			REVISION
		MFG			DRAWING NUMBER
		ViewDraw for Windows 7.5		D	B
				14-9661-1400	
				SHEET 1 OF 3	

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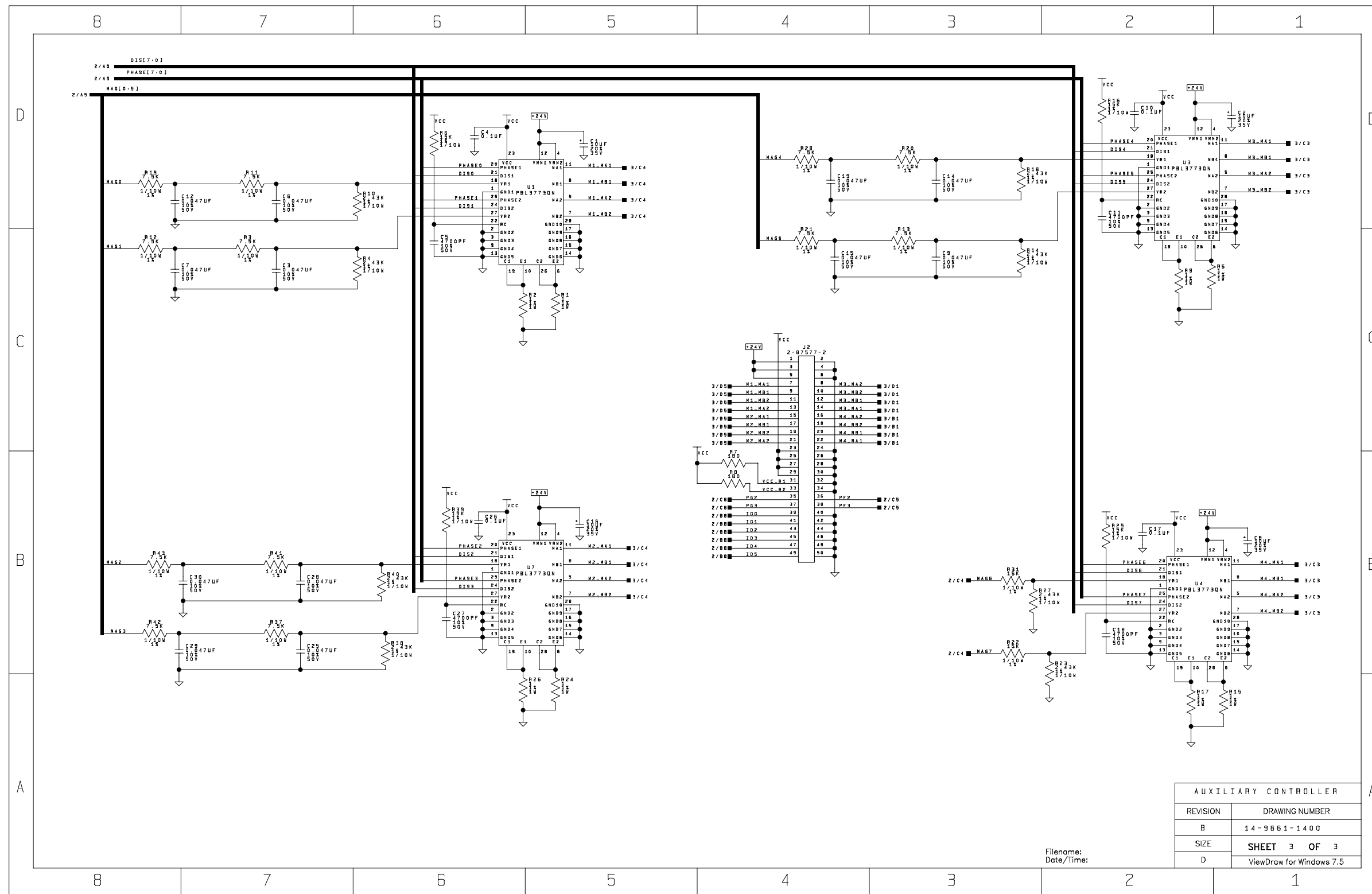
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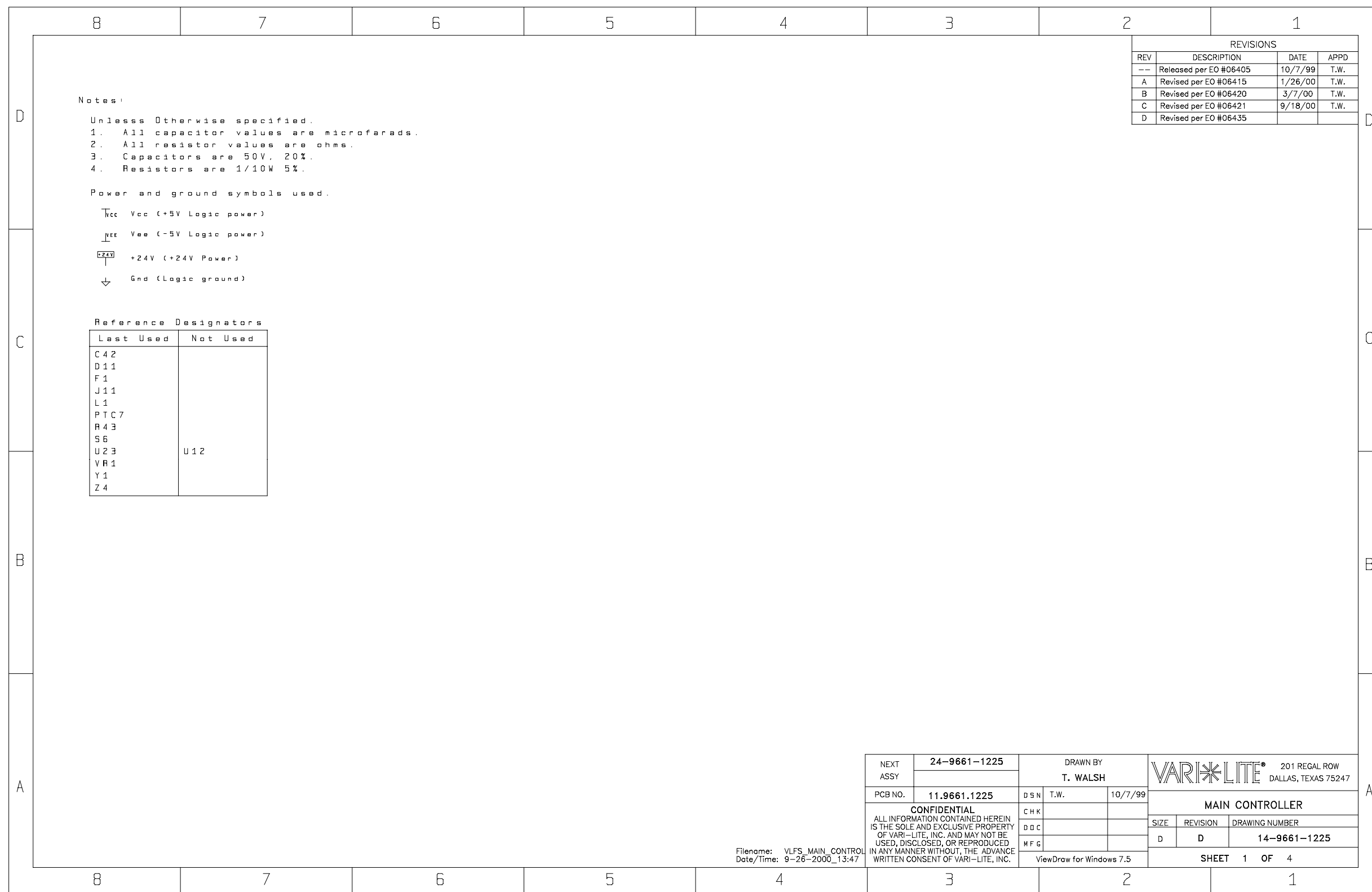
AUXILIARY CONTROLLER	
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SIZE	SHEET 2 OF 3
D	ViewDraw for Windows 7.5

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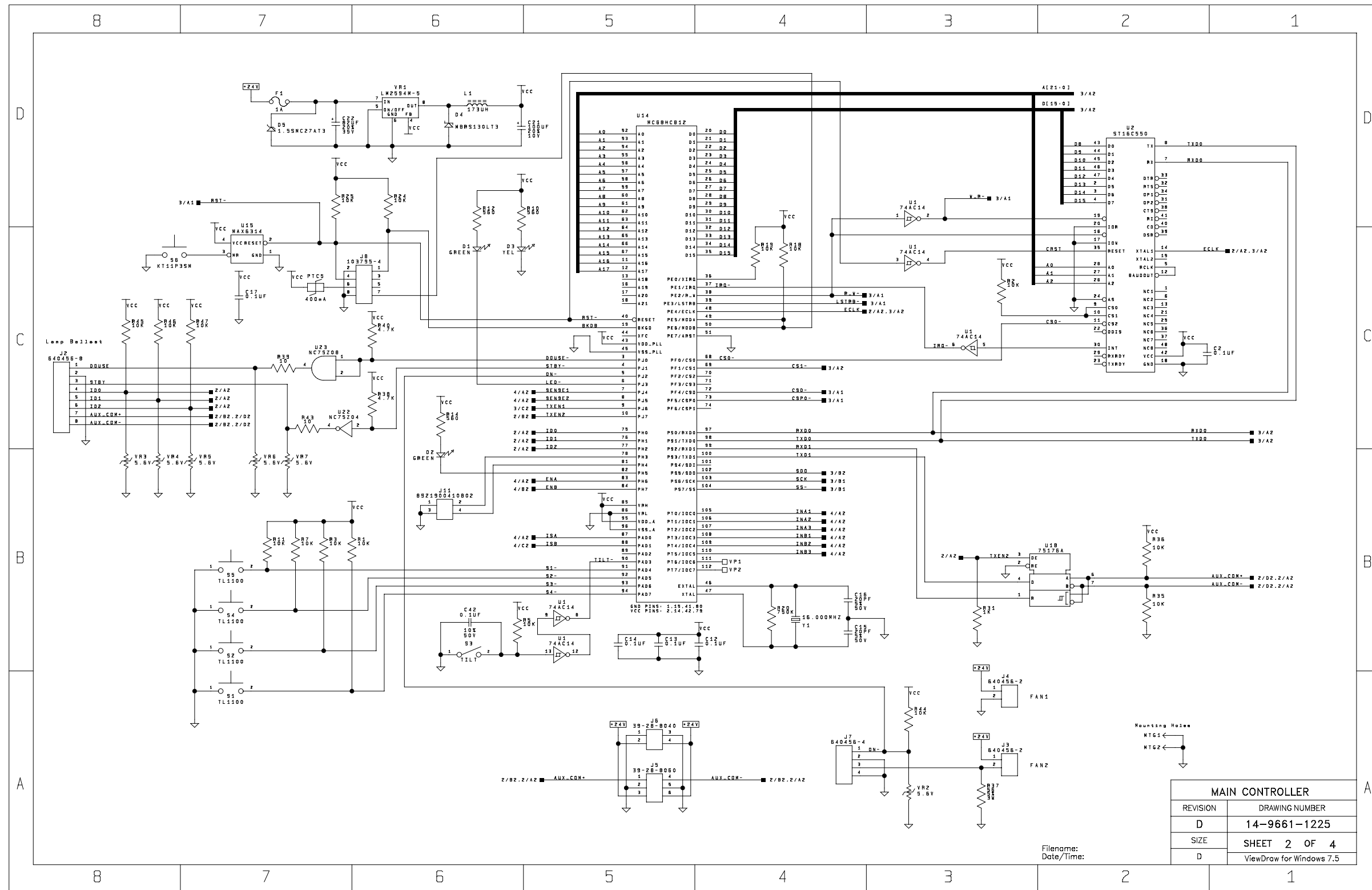
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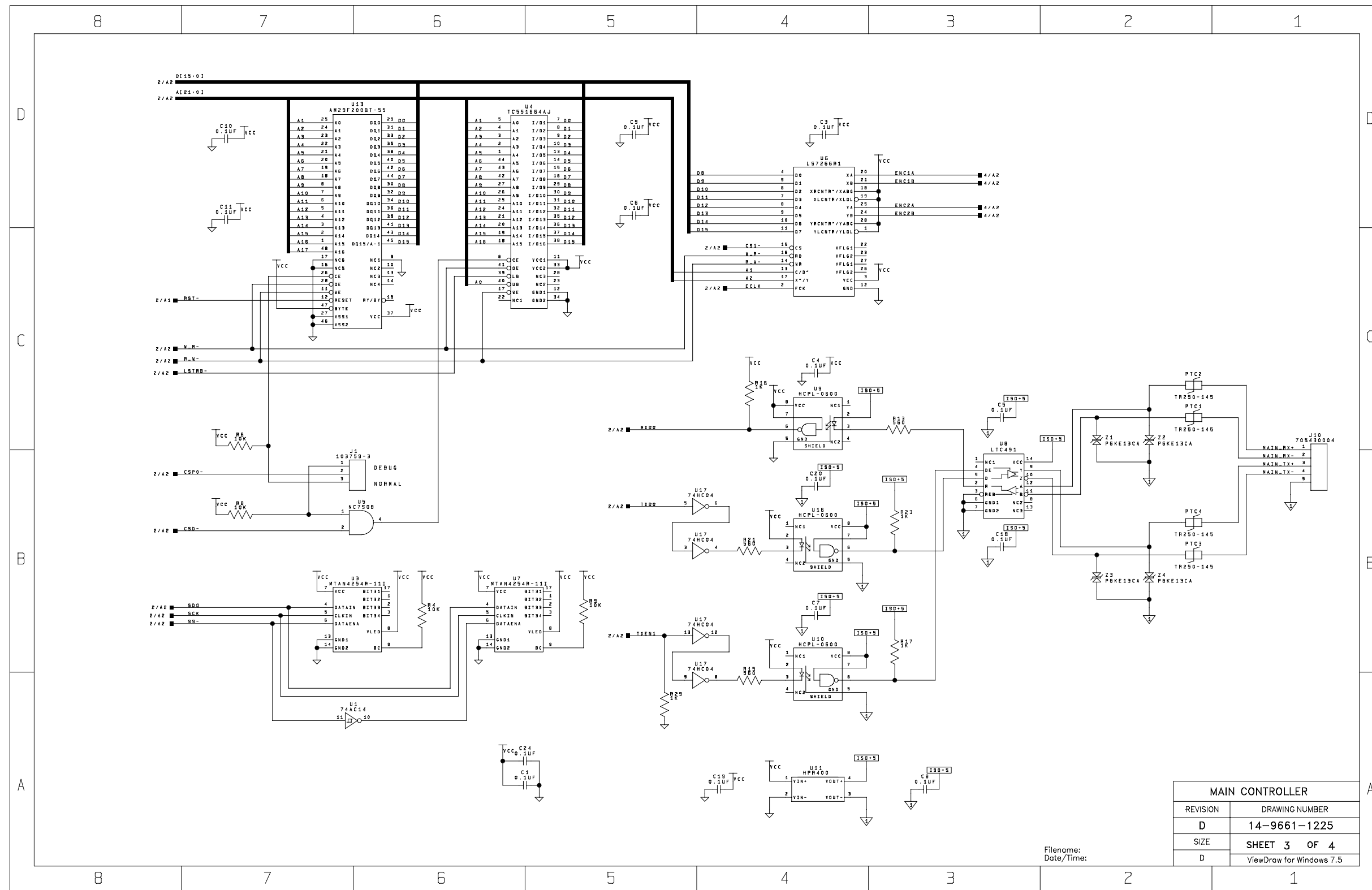
Main Controller Schematic



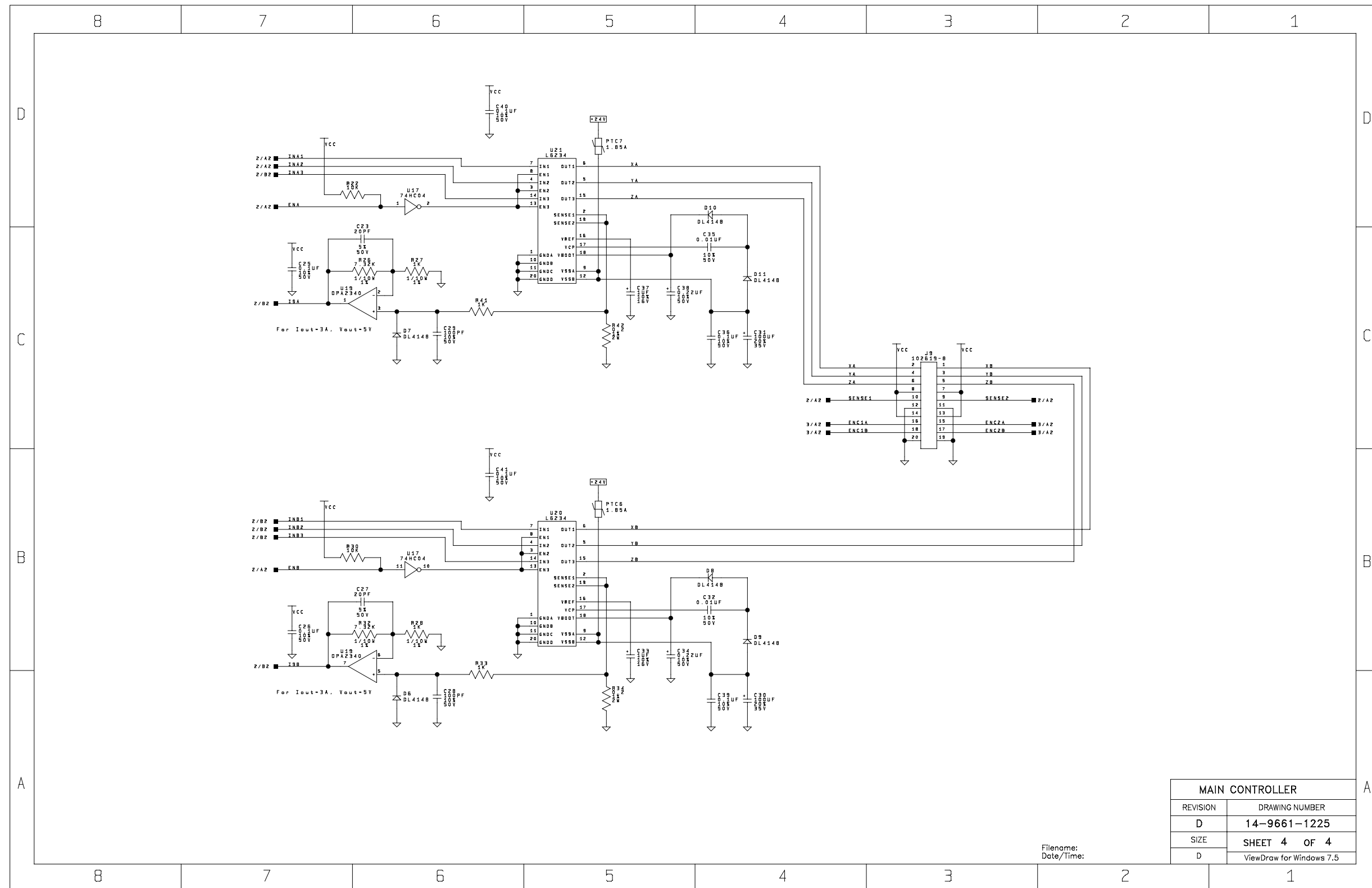
Main Controller Schematic (cont.)



Main Controller Schematic (cont.)



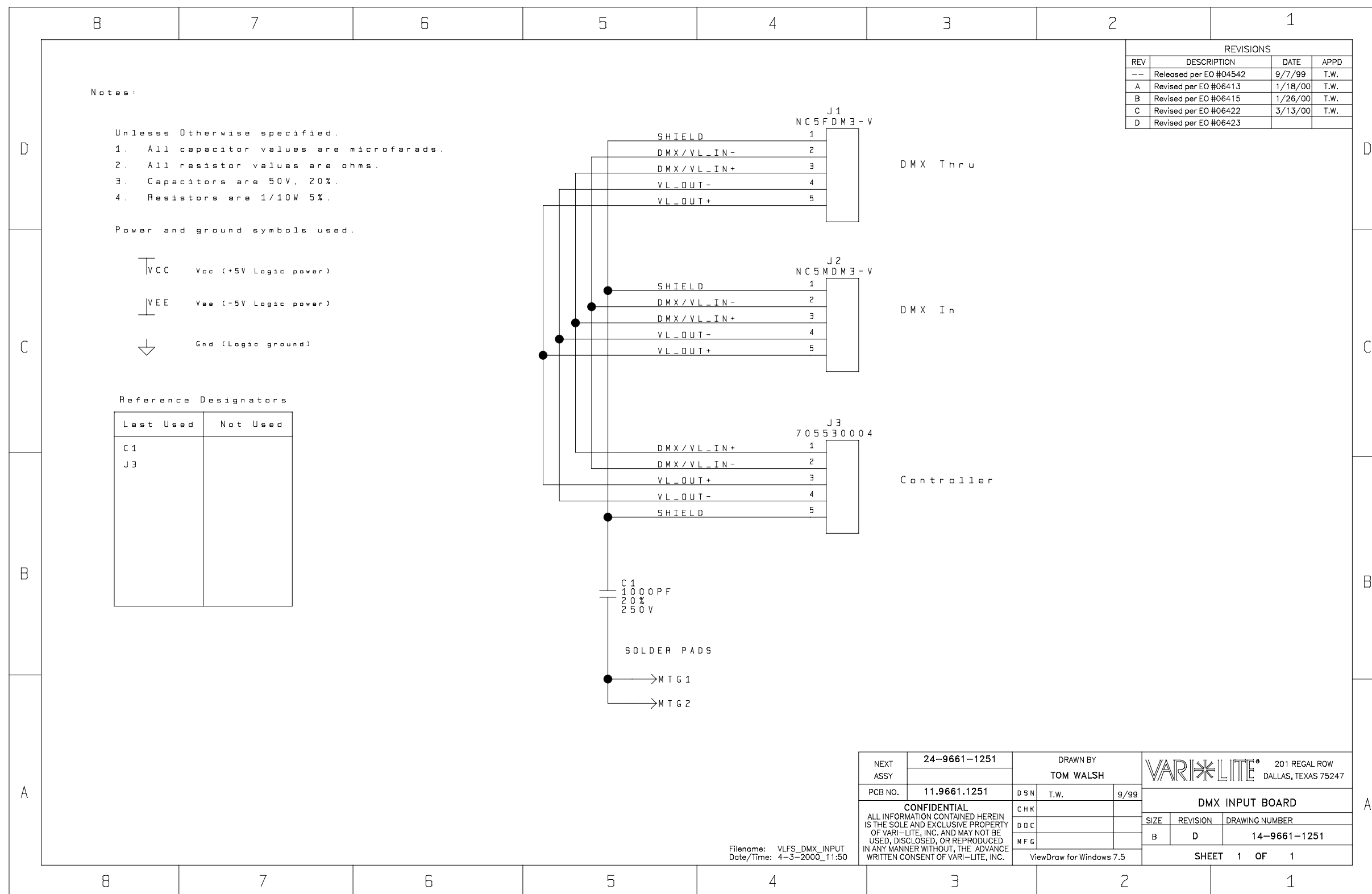
Main Controller Schematic (cont.)



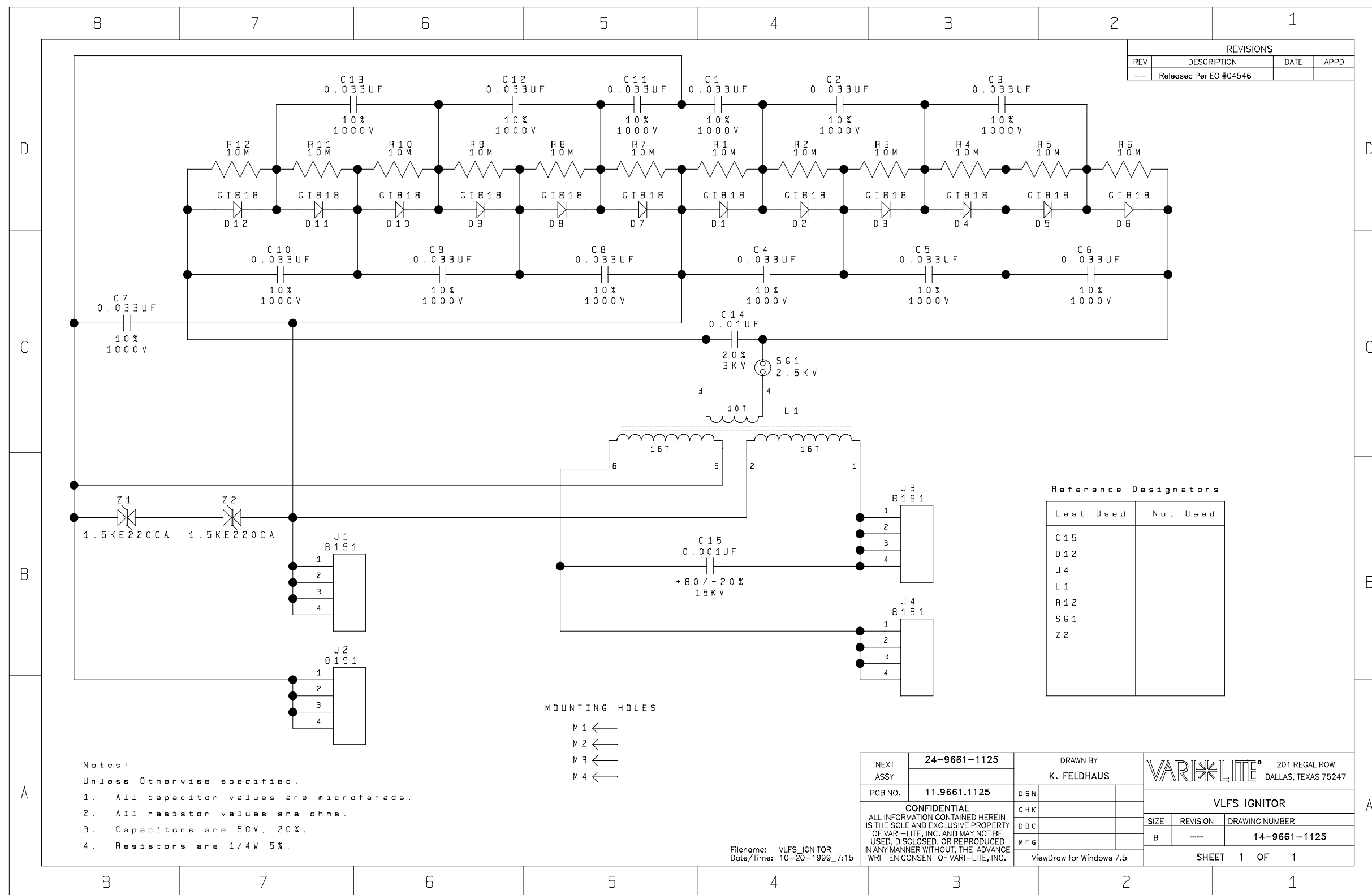
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D	ViewDraw for Windows 7.5

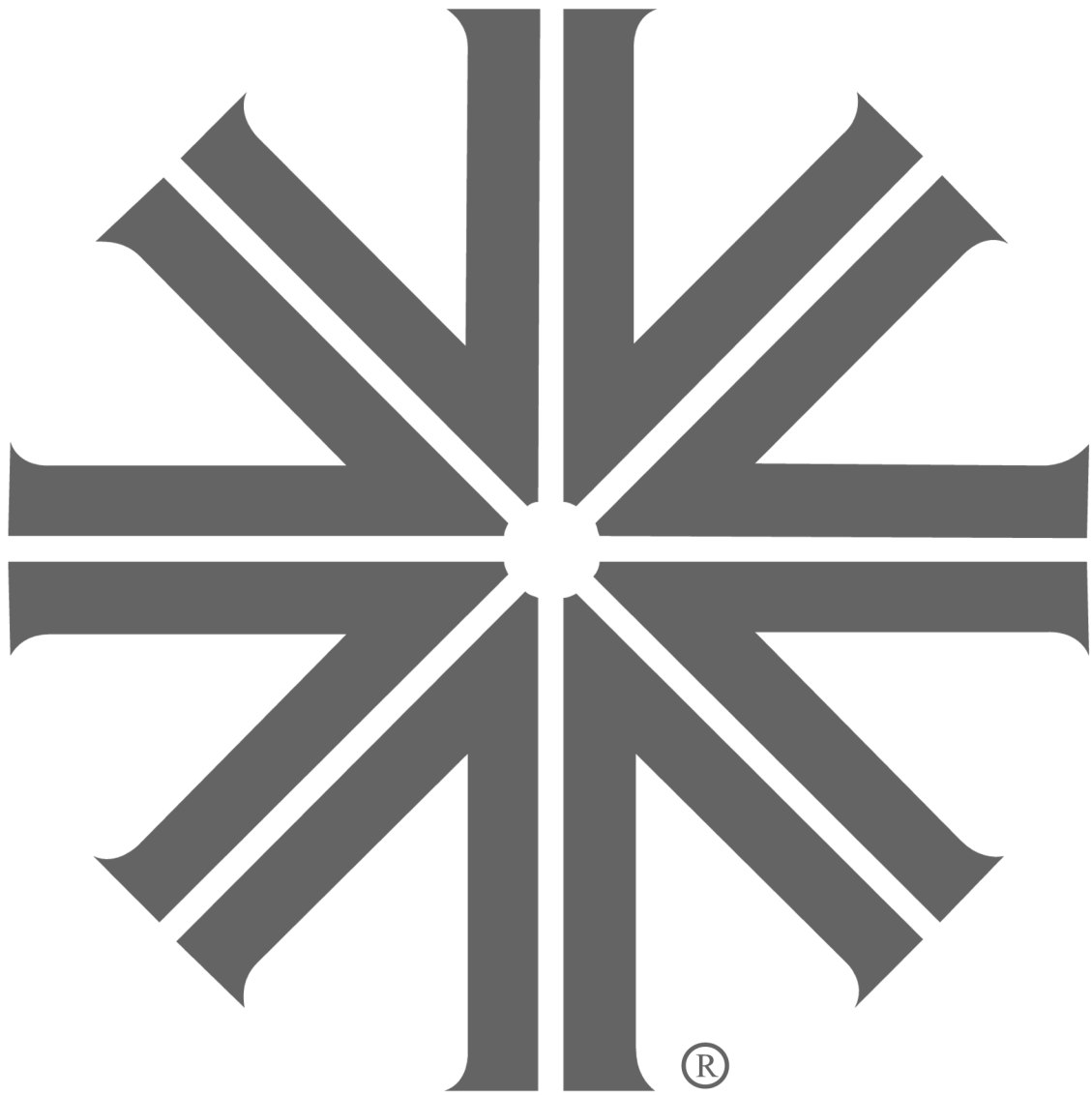
Filename:
Date/Time:

DMX Input Schematic



Ignitor Schematic







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