



LDX 82/86/85N/86N Series

High Frame Rate/HD/3G/4K Camera Platform

Maintenance Manual

13-00061-000 v2.0
2020-06-22

www.grassvalley.com

FCC Compliance

In order to comply with FCC/CFR47: Part 15 regulations, it is necessary to use high-quality, triple-screened Media or Monitor cable assemblies with integrated ferrite suppression at both ends.

Patent Information

This product may be protected by one or more patents.

For further information, please visit: www.grassvalley.com/patents/

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A Grass Valley manual may have been revised to reflect changes made to the product during its manufacturing life. Thus, different versions of a manual may exist for any given product. Care should be taken to ensure that one obtains the proper manual version for a specific product serial number.

Information in this document is subject to change without notice and does not represent a commitment on the part of Grass Valley.

Warranty information is available from the Legal Terms and Conditions section of Grass Valley's website (www.grassvalley.com).

Important Safety Information

This section provides important safety guidelines for operators and service personnel. Specific warnings and cautions appear throughout the manual where they apply. Please read and follow this important information, especially those instructions related to the risk of electric shock or injury to persons.

Symbols and Their Meanings



Indicates that dangerous high voltage is present within the equipment enclosure that may be of sufficient magnitude to constitute a risk of electric shock.



Indicates that the user, operator or service technician should refer to the product manuals for important operating, maintenance, or service instructions.



Indicates that static sensitive components are present, which may be damaged by electrostatic discharge. Use anti-static procedures, equipment and surfaces during servicing.



The presence of this symbol in or on Grass Valley equipment means that it has been tested and certified as complying with applicable Underwriters Laboratory (UL) regulations and recommendations for USA.



The presence of this symbol in or on Grass Valley equipment means that it has been tested and certified as complying with applicable Canadian Standard Association (CSA) regulations and recommendations for USA/Canada.



The presence of this symbol in or on Grass Valley equipment means that it has been tested and certified as complying with applicable Underwriters Laboratory (UL) regulations and recommendations for USA/Canada.



The presence of this symbol in or on Grass Valley equipment means that it has been tested and certified as complying with applicable Intertek Testing Services regulations and recommendations for USA/Canada.



The presence of this symbol in or on Grass Valley product means that it complies with all applicable European Union (CE) directives.



The presence of this symbol in or on Grass Valley product means that it complies with safety of laser product applicable standards.

Warnings



A warning indicates a possible hazard to personnel, which may cause injury or death. Observe the following general warnings when using or working on this equipment:

- Any instructions in this manual that require opening the equipment cover or enclosure are for use by qualified service personnel only.
- Do not operate the equipment in wet or damp conditions. If the unit is in a wet or damp environment, a rain cover must be used to protect it for personal safety reasons.
- Disconnect power before cleaning the equipment. Do not use liquid or aerosol cleaners; use only a damp cloth.
- Dangerous voltages may exist at several points in this equipment. To avoid injury, do not touch exposed connections and components while power is on.
- Prior to servicing, remove jewelry such as rings, watches, and other metallic objects.
- To avoid explosion, do not operate this equipment in an explosive atmosphere.
- Have qualified service personnel perform safety checks after any service.

Cautions



A caution indicates a possible hazard to equipment that could result in equipment damage. Observe the following cautions when operating or working on this equipment:

- Products that have no on/off switch, and use an external power supply must be installed in proximity to a main power outlet that is easily accessible.
- Provide proper ventilation. To prevent product overheating, provide equipment ventilation in accordance with the installation instructions. Do not block the hot airflow coming from air outlet(s).
- Do not operate with suspected equipment failure. If you suspect product damage or equipment failure, have the equipment inspected by qualified service personnel.
- To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Refer all servicing to qualified service personnel.
- Follow static precautions at all times when handling this equipment. Servicing should be done in a static-free environment.

Precautions

To ensure continual high performance from the camera take the following precautions into consideration:

- Avoid damp places. If the environment is wet or damp a rain cover must be used to protect the unit.
- Do not subject the unit to severe shocks or vibration.
- Do not expose the camera to extremes of temperature.
- Do not leave the unit in direct sunlight or close to heating appliances for extended periods.
- Do not allow sunlight to shine into the viewfinder.

- Do not allow laser beams to shine into the lens as this could damage the imagers.
- Avoid extreme highlights as these can cause various kinds of optical reflections.
- Be careful when connecting and disconnecting fiber cables.
- Do not connect Grass Valley camera systems with other manufacturer's camera system parts.
- Make connections swiftly and firmly to avoid false error messages.

Electrostatic Discharge (ESD) Protection



Electrostatic discharge occurs when electronic components are improperly handled and can result in intermittent failure or complete damage adversely affecting an electrical circuit. When you remove and replace any card from a frame always follow ESD-prevention procedures:

- Ensure that the frame is electrically connected to earth ground through the power cord or any other means if available.
- Wear an ESD wrist strap ensuring that it makes good skin contact. Connect the grounding clip to an *unpainted surface* of the chassis frame to safely ground unwanted ESD voltages. If no wrist strap is available, ground yourself by touching the *unpainted* metal part of the chassis.
- For safety, periodically check the resistance value of the antistatic strap, which should be between 1 and 10 megohms.
- When temporarily storing a card make sure it is placed in an ESD bag.
- Cards in an earth grounded metal frame or casing do not require any special ESD protection.

Battery Handling



This product may include a backup battery. There is a danger of explosion if the battery is replaced incorrectly. Replace the battery only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions. Before disposing of your Grass Valley equipment, please review the *Disposal and Recycling Information* at:

http://www.grassvalley.com/assets/media/5692/Take-Back_Instructions.pdf

Cautions for LCD and TFT Displays



Excessive usage may harm your vision. Rest for 10 minutes for every 30 minutes of usage.

If the LCD or TFT glass is broken, handle glass fragments with care when disposing of them. If any fluid leaks out of a damaged glass cell, be careful not to get the liquid crystal fluid in your mouth or skin. If the liquid crystal touches your skin or clothes, wash it off immediately using soap and water. Never swallow the fluid. The toxicity is extremely low but caution should be exercised at all times.

Mesures de sécurité et avis importants

La présente section fournit des consignes de sécurité importantes pour les opérateurs et le personnel de service. Des avertissements ou mises en garde spécifiques figurent dans le manuel, dans les sections où ils s'appliquent. Prenez le temps de bien lire les consignes et assurez-vous de les respecter, en particulier celles qui sont destinées à prévenir les décharges électriques ou les blessures.

Signification des symboles utilisés



Signale la présence d'une tension élevée et dangereuse dans le boîtier de l'équipement ; cette tension peut être suffisante pour constituer un risque de décharge électrique.



Avertit l'utilisateur, l'opérateur ou le technicien de maintenance que des instructions importantes relatives à l'utilisation et à l'entretien se trouvent dans la documentation accompagnant l'équipement.



Invite l'utilisateur, l'opérateur ou le technicien de maintenance à prendre note du calibre du fusible lors du remplacement de ce dernier. Le fusible auquel il est fait référence dans le texte doit être remplacé par un fusible du même calibre.



Identifie une borne de mise à la terre de protection. Il faut relier cette borne à la terre avant d'effectuer toute autre connexion à l'équipement.



Identifie une borne de mise à la terre externe qui peut être connectée en tant que borne de mise à la terre supplémentaire.



Signale la présence de composants sensibles à l'électricité statique et qui sont susceptibles d'être endommagés par une décharge électrostatique. Utilisez des procédures, des équipements et des surfaces antistatiques durant les interventions d'entretien.



Le symbole ci-contre signifie que l'appareil comporte plus d'un cordon d'alimentation et qu'il faut débrancher tous les cordons d'alimentation avant toute opération d'entretien, afin de prévenir les chocs électriques.



La marque UL certifie que l'appareil visé a été testé par Underwriters Laboratory (UL) et reconnu conforme aux exigences applicables en matière de sécurité électrique en vigueur au Canada et aux États-Unis.



La marque C-CSA-US certifie que l'appareil visé a été testé par l'Association canadienne de normalisation (CSA) et reconnu conforme aux exigences applicables en matière de sécurité électrique en vigueur au Canada et aux États-Unis.



La marque C-UL-US certifie que l'appareil visé a été testé par Underwriters Laboratory (UL) et reconnu conforme aux exigences applicables en matière de sécurité électrique en vigueur au Canada et aux États-Unis.



La marque ETL Listed d'Intertek pour le marché Nord-Américain certifie que l'appareil visé a été testé par Intertek et reconnu conforme aux exigences applicables en matière de sécurité électrique en vigueur au Canada et aux États-Unis.



Le marquage CE indique que l'appareil visé est conforme aux exigences essentielles des directives applicables de l'Union européenne en matière de sécurité électrique, de compatibilité électromagnétique et de conformité environnementale.



Le symbole ci-contre sur un appareil Grass Valley ou à l'intérieur de l'appareil indique qu'il est conforme aux normes applicables en matière de sécurité laser.

Avertissements



Les avertissements signalent des conditions ou des pratiques susceptibles d'occasionner des blessures graves, voire fatales. Veuillez vous familiariser avec les avertissements d'ordre général ci-dessous :

- Un cordon d'alimentation dûment homologué doit être utilisé pour connecter l'appareil à une tension de secteur de 120 V CA ou 240 V CA.
- La protection de ce produit contre les courts-circuits (surintensités) dépend de l'installation électrique du bâtiment. Assurez-vous qu'un fusible ou un disjoncteur pour 120 V CA ou 240 V CA est utilisé sur les conducteurs de phase.
- Dans le présent manuel, toutes les instructions qui nécessitent d'ouvrir le couvercle de l'équipement sont destinées exclusivement au personnel technique qualifié.
- N'utilisez pas cet appareil dans un environnement humide.
- Cet équipement est mis à la terre par le conducteur de mise à la terre des cordons d'alimentation. Pour éviter les chocs électriques, branchez les cordons d'alimentation sur une prise correctement câblée avant de brancher les entrées et sorties de l'équipement.
- Acheminez les cordons d'alimentation et autres câbles de façon à ce qu'ils ne risquent pas d'être endommagés. Supportez correctement les enroulements de câbles afin de ne pas endommager les connecteurs.
- Coupez l'alimentation avant de nettoyer l'équipement. Ne pas utiliser de nettoyeurs liquides ou en aérosol. Utilisez uniquement un chiffon humide.
- Des tensions dangereuses peuvent exister en plusieurs points dans cet équipement. Pour éviter toute blessure, ne touchez pas aux connexions ou aux composants exposés lorsque l'appareil est sous tension.
- Avant de procéder à toute opération d'entretien ou de dépannage, enlevez tous vos bijoux (notamment vos bagues, votre montre et autres objets métalliques).
- Pour éviter tout risque d'incendie, utilisez uniquement les fusibles du type et du calibre indiqués sur l'équipement ou dans la documentation qui l'accompagne.

- Ne pas utiliser cet appareil dans une atmosphère explosive.
- Présence possible de courants de fuite. Un raccordement à la masse est indispensable avant la mise sous tension.
- Après tout travail d'entretien ou de réparation, faites effectuer des contrôles de sécurité par le personnel technique qualifié.

Mises en garde



Les mises en garde signalent des conditions ou des pratiques susceptibles d'endommager l'équipement. Veuillez vous familiariser avec les mises en garde ci-dessous :

- L'appareil est conçu pour être installé dans un endroit à accès restreint.
- Au moment d'installer l'équipement, ne fixez pas les cordons d'alimentation aux surfaces intérieures de l'édifice.
- Les produits qui n'ont pas d'interrupteur marche-arrêt et qui disposent d'une source d'alimentation externe doivent être installés à proximité d'une prise de courant facile d'accès.
- Si l'équipement n'est pas pourvu d'un modules d'alimentation auto-adaptables, vérifiez la configuration de chacun des modules d'alimentation avant de les mettre sous tension.
- Assurez une ventilation adéquate. Pour éviter toute surchauffe du produit, assurez une ventilation de l'équipement conformément aux instructions d'installation.
- N'utilisez pas l'équipement si vous suspectez un dysfonctionnement du produit. Faites-le inspecter par un technicien qualifié.
- Pour réduire le risque de choc électrique, n'effectuez pas de réparations autres que celles qui sont décrites dans le présent manuel, sauf si vous êtes qualifié pour le faire. Confiez les réparations à un technicien qualifié. La maintenance doit se réaliser dans un milieu libre d'électricité statique.
- L'appareil peut comporter plus d'un cordon d'alimentation. Afin de prévenir les chocs électriques, débrancher tous les cordons d'alimentation avant toute opération d'entretien.
- Veillez à toujours prendre les mesures de protection antistatique appropriées quand vous manipulez l'équipement.
- Pour réduire le risque de choc électrique, branchez chaque cordon d'alimentation dans des circuits de dérivation distincts utilisant des zones de service distinctes.

Protection contre les décharges électrostatiques (DES)



Une décharge électrostatique peut se produire lorsque des composants électroniques ne sont pas manipulés de manière adéquate, ce qui peut entraîner des défaillances intermittentes ou endommager irrémédiablement un circuit électrique. Au moment de remplacer une carte dans un châssis, prenez toujours les mesures de protection antistatique appropriées :

- Assurez-vous que le châssis est relié électriquement à la terre par le cordon d'alimentation ou tout autre moyen disponible.

- Portez un bracelet antistatique et assurez-vous qu'il est bien en contact avec la peau. Connectez la pince de masse à une *surface non peinte* du châssis pour détourner à la terre toute tension électrostatique indésirable. En l'absence de bracelet antistatique, déchargez l'électricité statique de votre corps en touchant une surface métallique *non peinte* du châssis.
- Pour plus de sécurité, vérifiez périodiquement la valeur de résistance du bracelet antistatique. Elle doit se situer entre 1 et 10 mégohms.
- Si vous devez mettre une carte de côté, assurez-vous de la ranger dans un sac protecteur antistatique.
- Les cartes qui sont reliées à un châssis ou boîtier métallique mis à la terre ne nécessitent pas de protection antistatique spéciale.

Manipulation de la pile



Ce produit peut inclure une pile de sauvegarde. Il y a un risque d'explosion si la pile est remplacée de manière incorrecte. Remplacez la pile uniquement par un modèle identique ou équivalent recommandé par le fabricant. Disposez des piles usagées conformément aux instructions du fabricant. Avant de vous séparer de votre équipement Grass Valley, veuillez consulter les *informations de mise au rebut et de recyclage* à:

http://www.grassvalley.com/assets/media/5692/Take-Back_Instructions.pdf

Précautions pour les écrans LCD et TFT



Regarder l'écran pendant une trop longue période de temps peut nuire à votre vision. Prenez une pause de 10 minutes, après 30 minutes d'utilisation.

Si l'écran LCD ou TFT est brisé, manipulez les fragments de verre avec précaution au moment de vous en débarrasser. veillez à ce que le cristal liquide n'entre pas en contact avec la peau ou la bouche. En cas de contact avec la peau ou les vêtements, laver immédiatement à l'eau savonneuse. Ne jamais ingérer le liquide. La toxicité est extrêmement faible, mais la prudence demeure de mise en tout temps.

Environmental Information

European (CE) WEEE directive.



This symbol on the product(s) means that at the end of life disposal it should not be mixed with general waste.

Visit www.grassvalley.com for recycling information.

Grass Valley believes this environmental information to be correct but cannot guarantee its completeness or accuracy since it is based on data received from sources outside our company. All specifications are subject to change without notice.

If you have questions about Grass Valley environmental and social involvement (WEEE, RoHS, REACH, etc.), please contact us at environment@grassvalley.com.

Lithium Batteries

Battery Warning

CAUTION

This equipment contains a lithium battery.
There is a danger of explosion if this is replaced incorrectly.
Replace only with the same or equivalent type.
Dispose of used batteries according to the manufacturer's instructions.
Batteries **shall only** be replaced by trained service technicians.

Your Grass Valley equipment usually comes with at least one button battery located on the main printed circuit board. The batteries are used for backup and should not need to be replaced during the lifetime of the equipment.

Battery Disposal

Before disposing of your Grass Valley equipment, please remove the battery as follows:

- 1 Make sure the AC adapter / power Cord is unplugged from the power outlet.
- 2 Remove the protective cover from your equipment.
- 3 Gently remove the battery from its holder using a blunt instrument for leverage such as a screwdriver if necessary. In some cases the battery will need to be desoldered from the PCB.
- 4 Dispose of the battery and equipment according to your local environmental laws and guidelines.

WARNING

- Be careful not to short-circuit the battery by adhering to the appropriate safe handling practices.
- Do not dispose of batteries in a fire as they may explode.
- Batteries may explode if damaged or overheated.
- Do not dismantle, open or shred batteries.
- In the event of a battery leak, do not allow battery liquid to come in contact with skin or eyes.
- Seek medical help immediately in case of ingestion, inhalation, skin or eye contact, or suspected exposure to the contents of an opened battery.

Laser Safety - Fiber Output SFP and QSFP Modules Warning

LASER SAFETY



The average optical output power does not exceed 0 dBm (1mW) under normal operating conditions. Unused optical outputs should be covered to prevent direct exposure to the laser beam.

Even though the power of these lasers is low, the beam should be treated with caution and common sense because it is intense and concentrated. Laser radiation can cause irreversible and permanent damage of eyesight. Please read the following guidelines carefully:

- Make sure that a fiber is connected to the board's fiber outputs before power is applied. If a fiber cable (e.g. patchcord) is already connected to an output, make sure that the cable's other end is connected, too, before powering up the board.
- **Do not** look in the end of a fiber to see if light is coming out. The laser wavelengths being used are totally invisible to the human eye and can cause permanent damage. Always use optical instrumentation, such as an optical power meter, to verify light output.

Safety and EMC Standards

This equipment complies with the following standards:

Safety Standards



EN62368-1:2014 + AC:2015

Safety of Audio/video, information and communication technology equipment

EMC Standards

This unit conforms to the following standards:

EN55032:2012 + C2:2013

Electromagnetic Compatibility - Emission

EN55103-2:2009

Electromagnetic Compatibility - Immunity

WARNING

This equipment is compliant with Class A of CISPR 32. In a residential environment this equipment may cause radio interference.

FCC / CFR 47:Part 15 (Class A)

Federal Communications Commission Rules Part 15, Subpart B

Caution to the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the 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 the instruction manual, 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 own expense.

EMC Performance of Cables and Connectors

Grass Valley products are designed to meet or exceed the requirements of the appropriate European EMC standards. In order to achieve this performance in real installations it is essential to use cables and connectors with good EMC characteristics.

All signal connections (including remote control connections) shall be made with screened cables terminated in connectors having a metal shell. The cable screen shall have a large-area contact with the metal shell.

SIGNAL/DATA PORTS

For unconnected signal/data ports on the unit, fit shielding covers. For example, fit EMI blanking covers to SFP+ type ports and fit 75 Ω RF terminators to BNC type ports.

COAXIAL CABLES

Coaxial cables connections (particularly serial digital video connections) shall be made with high-quality double-screened coaxial cables such as Belden 8281 or BBC type PSF1/2M and Belden 1694A (for 3Gbps).

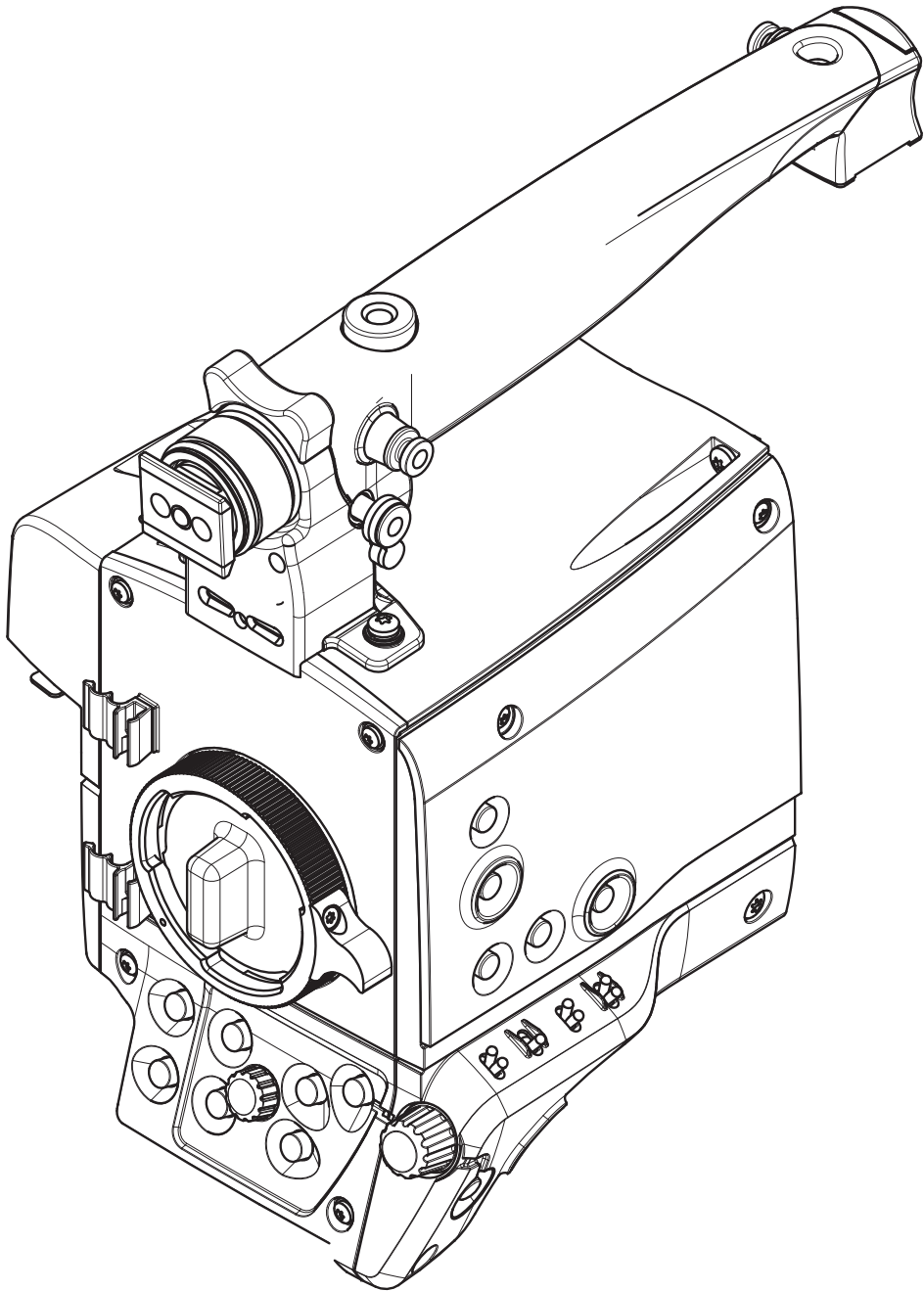
D-TYPE CONNECTORS

D-type connectors shall have metal shells making good RF contact with the cable screen. Connectors having "dimples" which improve the contact between the plug and socket shells, are recommended.

LDX82/86/85n/86n (All versions)

List of Field Replacable Units (FRUs):

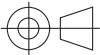
Pos	Part Number	Description
2	510-00006-01	SIDEGRIP ASSY
4	3922 407 57423	V-BLOCK MACHINED
5	510-00009-01	SHOULDERPAD ASSY



2

4

5

MATERIAL AND FINISHES MUST BE RoHS COMPLIANT						
		DOCUMENT NUMBER:	SHEET:			
DESCRIPTION:	LDX82/86/85n/86n (All versions)					
GENERAL ROUGHNESS: Ra 3.2 um	IF TOLERANCE AND TOLERANCE TABLE ARE ABSENT THEN APPLY DIM ±0.2 ANGLE ±1°	UNIT:		SCALE:	FORMAT:	SHEET:

GNDLS HEAD LDX82-86-85n-86n

List of Field Replacable Units (FRUs):

Pos	Part Number	Description	Quantity
1	91-00095-000	FRONT MODULE CMOS 4K U23C	For LDX85n/LDX86n
1	500-00003-01	FRONT MODULE CMOS HS	For DLX82/86
5	3922 407 51582	UV/IR FILTER ASSY	
17	3922 407 61233	OPTICAL SWITCH ASSY	
20	4-000000030-00	FRU kit DUSTCAP	50
80	524-00029-03	PCB F--- HS SPIDERFLEX 45P Au	
83	524-00028-03	PCB F--- HS SPIDERFLEX 25P Au	
792	4-000000021-00	FRU kit COMBI SCR PAN STL ST M3X8	200
	4-000000002-00	FRU kit Bajonet ring	

**FRU kit contains**

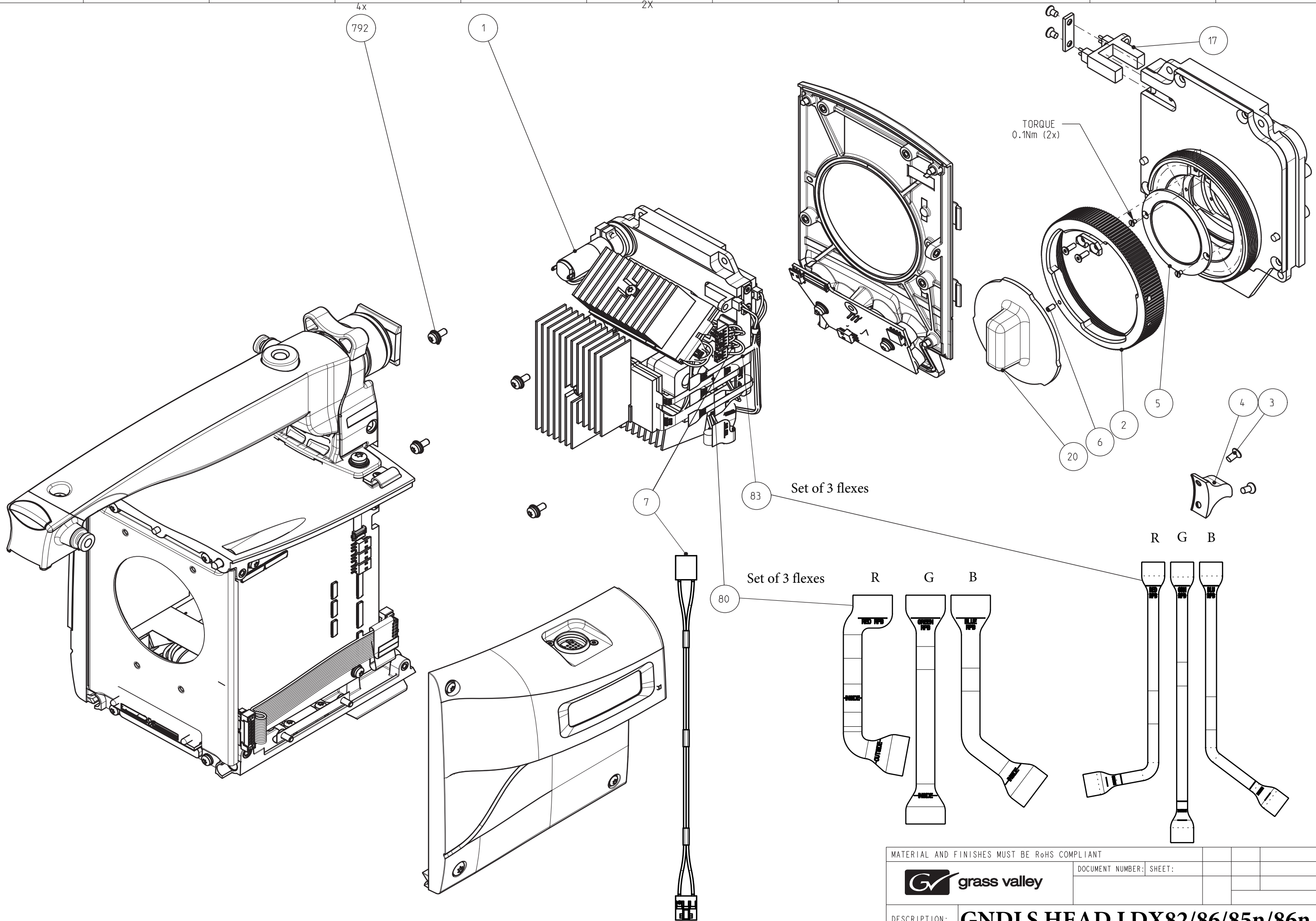
Parts cannot be ordered separately			
2	3922 404 23633	BAJONET RING	1
3	8322 299 71887	CSK SCR STL ST M3X6 BLACK	2
4	3922 404 44032	BAJONET RING GRIP	1
6	2522 043 02017	SET SCREW HEX ST BLK M2X4	1

4-000000004-00 FRU kit cable head

**FRU kit contains**

Parts cannot be ordered separately			
	3922 407 26063	POWER SWITCH ASSY	1
	3922 407 61435	12P WIRING POWER	1
	3922 407 61442	POWER CABLE ASSY	1
7	3922 407 61453	SSB POWER CABLE	3

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MATERIAL AND FINISHES MUST BE RoHS COMPLIANT					
 grass valley		DOCUMENT NUMBER: SHEET:			
DESCRIPTION:		GNDLS HEAD LDX82/86/85n/86n			
GENERAL ROUGHNESS: Ra 3.2 um		IF TOLERANCE AND TOLERANCE TABLE ARE ABSENT THEN APPLY DIM ±0.2 ANGLE ±1°		UNIT:	SCALE:
				FORMAT:	SHEET:

CAMERA HEAD BASIC

List of Field Replacable Units (FRUs):

Pos	Part Number	Description	Quantity
7	3922 407 40211	DIG.ZOOM HANDGRIP ASSY	
83	4-000000029-00	FRU kit PCB F--- GENERIC FPC 45P 0.3MM L=68MM Au	9
84	524-00023-03	PCB F--- FPC 45P 0.3MM TL=160MM Au	
791	4-000000020-00	FRU kit COMBI SCR PAN STL ST M3X6	50
U1	522-00048-01	PCBA HS 4K RPB	

4-000000007-00 FRU kit CLB FLEX



FRU kit contains

Parts cannot be ordered separately			
	2422 015 18546	CLB FLEX 30P FFC 0.5 SUMICARD TL=81MM 30V	5
	3922 205 00005	CLB FLEX 10P FFC 0.5 SUMICARD TL=46MM 30V	5
80	2422 015 19425	CLB FLEX 10P FFC 0.5 SUMICARD TL=138MM 30V	5
	2422 015 18547	CLB FLEX 10P FFC 0.5 SUMICARD TL=78MM 30V	5
	3922 205 00123	CLB FLEX 30P FFC 0.5 SUMICARD TL=160MM 30V	5
	3922 205 00006	CLB FLEX 30P FFC 0.5 SUMICARD TL=56MM 30V	5
	2422 015 19905	CLB FLEX 30P FFC 0.5 SUMICARD TL=131MM 30V	5

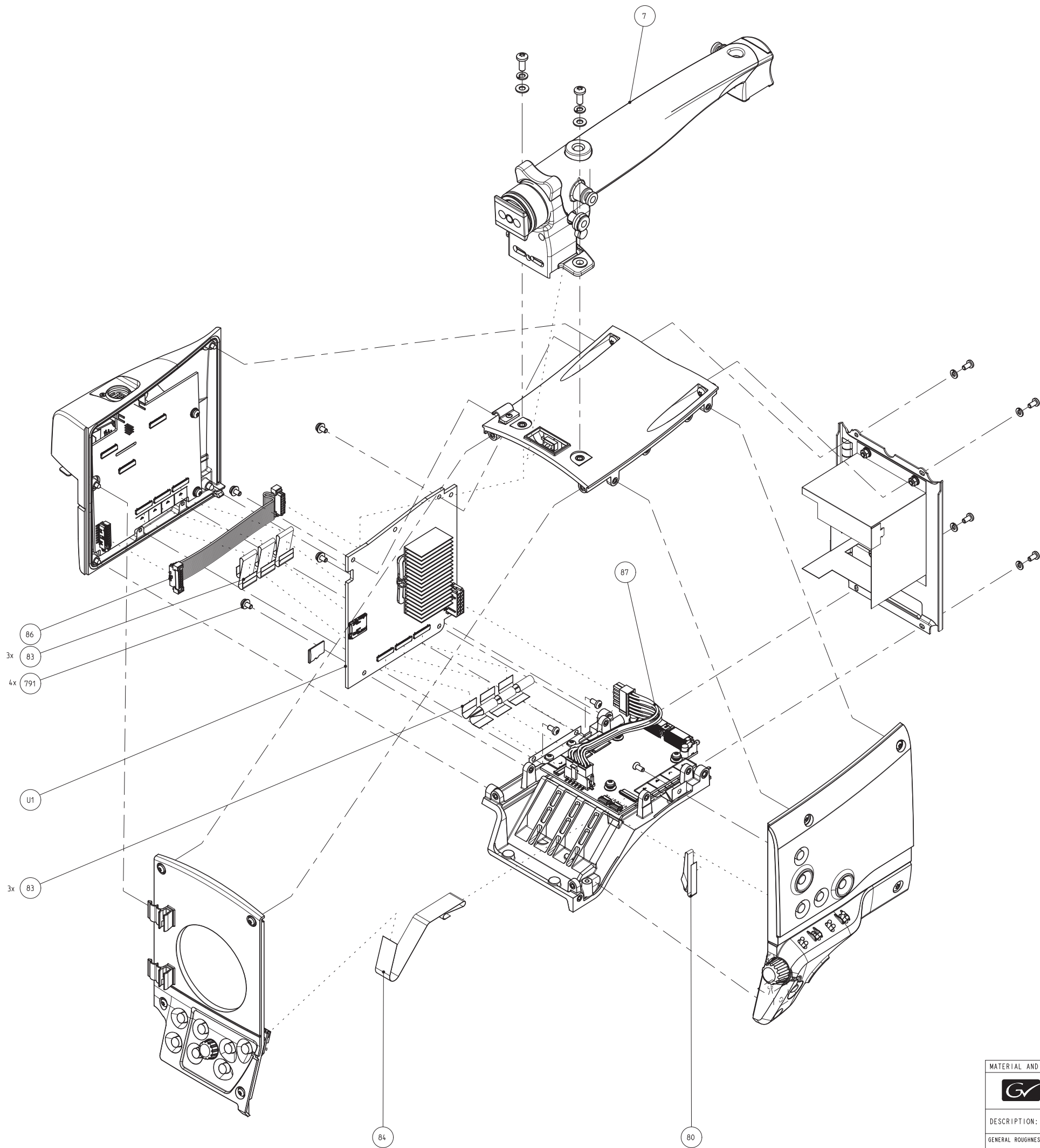
4-000000004-00 FRU kit cable head



FRU kit contains

Parts cannot be ordered separately			
	3922 407 26063	POWER SWITCH ASSY	1
87	3922 407 61435	12P WIRING POWER	1
86	3922 407 61442	POWER CABLE ASSY	1
	3922 407 61453	SSB POWER CABLE	3

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MATERIAL AND FINISHES MUST BE ROHS COMPLIANT						
		DOCUMENT NUMBER:		SHEET:		
DESCRIPTION: CAMERA HEAD BASIC						
GENERAL ROUGHNESS: Ra 3.2 um		IF TOLERANCE AND TOLERANCE TABLE ARE ABSENT THEN APPLY DIM ± 0.2 ANGLE $\pm 1^\circ$		UNIT:	SCALE:	FORMAT:
						

3922 407 55801 - BOTTOM PLATE ASSY

List of Field Replacable Units (FRUs):

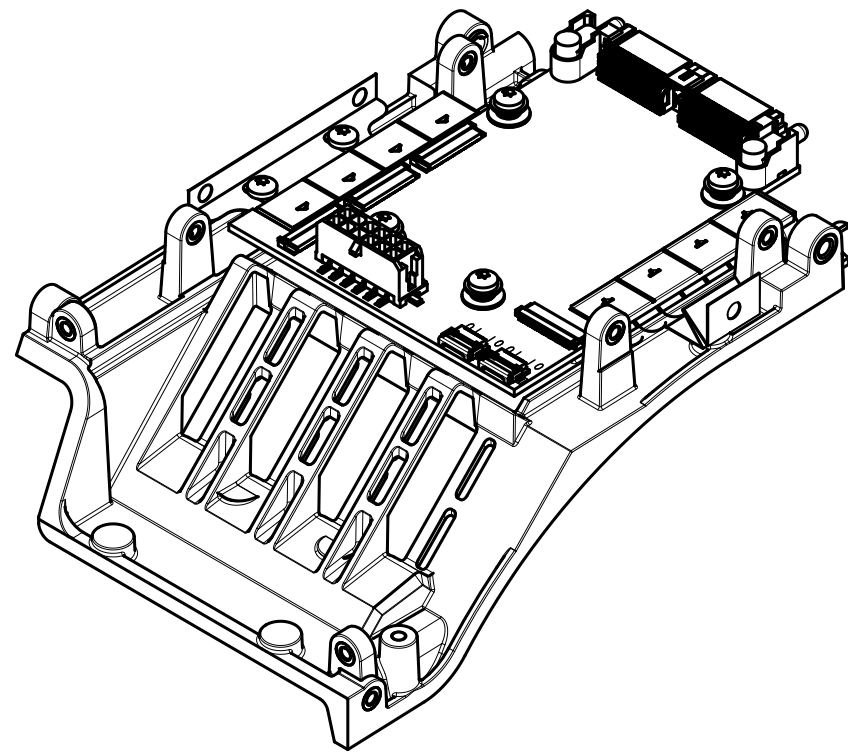
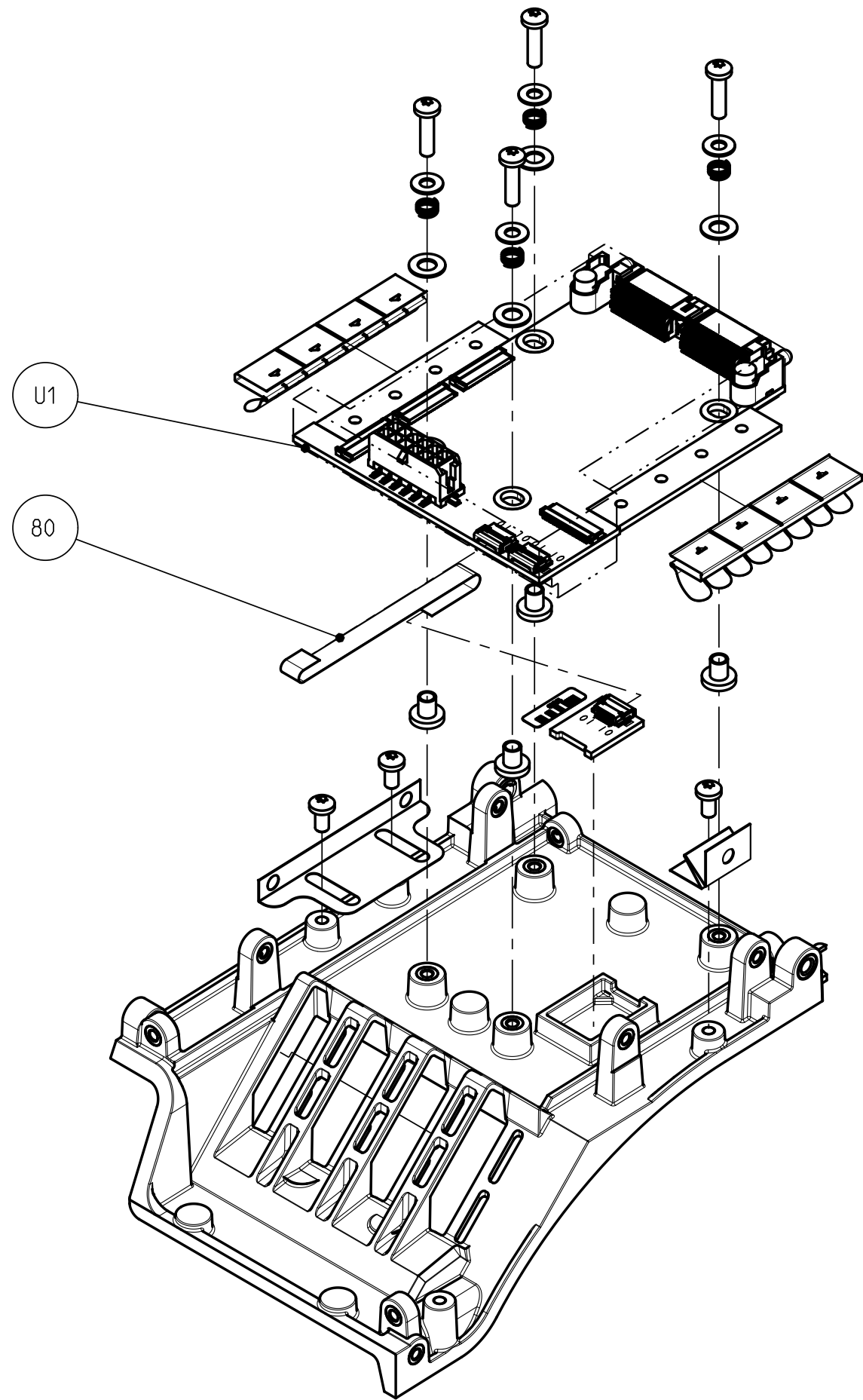
Pos	Part Number	Description
U1	3922 406 56001	INTERCON. POWER BRD
	4-000000007-00	FRU kit CLB FLEX



FRU kit contains

Parts cannot be ordered separately			
	2422 015 18546	CLB FLEX 30P FFC 0.5 SUMICARD TL=81MM 30V	5
	3922 205 00005	CLB FLEX 10P FFC 0.5 SUMICARD TL=46MM 30V	5
	2422 015 19425	CLB FLEX 10P FFC 0.5 SUMICARD TL=138MM 30V	5
80	2422 015 18547	CLB FLEX 10P FFC 0.5 SUMICARD TL=78MM 30V	5
	3922 205 00123	CLB FLEX 30P FFC 0.5 SUMICARD TL=160MM 30V	5
	3922 205 00006	CLB FLEX 30P FFC 0.5 SUMICARD TL=56MM 30V	5
	2422 015 19905	CLB FLEX 30P FFC 0.5 SUMICARD TL=131MM 30V	5

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MATERIAL:				SCALE
TREATMENT:				
FINISH:				
DRAWN BY:	DATE:	GENERAL ROUGHNESS: Ra 3.2 n um	TOLERANCES UNLESS OTHERWISE STATED: DIMENSION:± ANGLE: ±°	UNIT mm
TITLE:		BOTTOM PLATE ASSY		
		DOCUMENT NUMBER	FORMAT	SHEET
		RELEASE LEVEL:		

3922 407 55811 - FRONT PLATE ASSY

List of Field Replacable Units (FRUs):

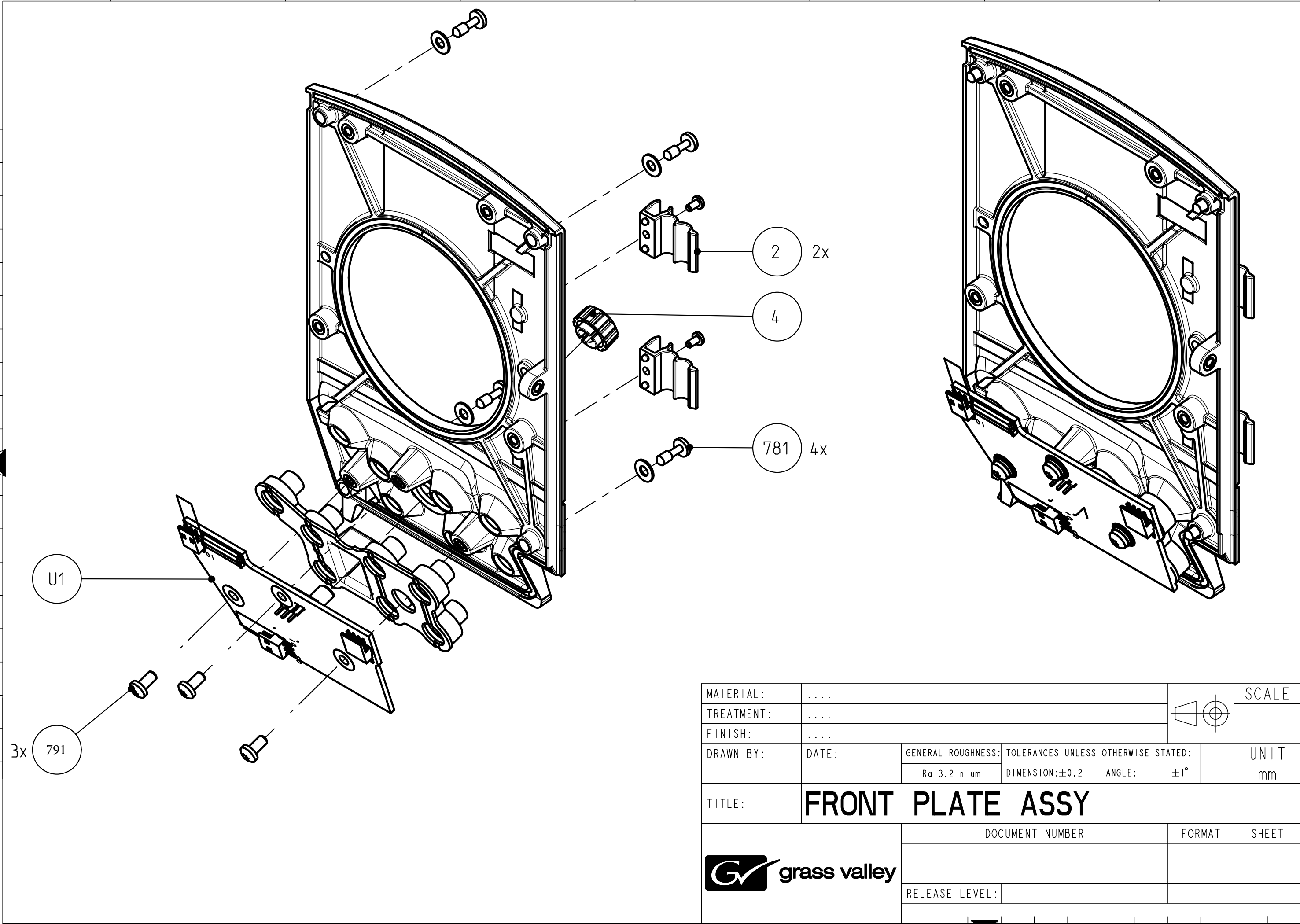
Pos	Part Number	Description	Quantity
781	4-000000023-00	FRU kit PAN CAP SCR STL.ST M3x10	10
791	4-000000020-00	FRU kit COMBI SCR PAN STL ST M3X6	50
U1	3922 406 55981	FRONT SWITCH PANEL	
	4-000000015-00	FRU kit Misc parts camera head	

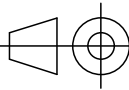


FRU kit contains

Parts cannot be ordered separately			
	3922 400 08501	SEALING VF-CONNECTOR	2
2	3922 400 10041	CABLECLAMP	2
4	3922 400 11642	VOLUME KNOB	2
	3922 400 11651	ROTARY KNOB	2
	3922 407 24012	VF SCREW LONG ASSY	1
	3922 407 25553	CLAMPBOLT	1

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MATERIAL:						SCALE	
TREATMENT:							
FINISH:							
DRAWN BY:		DATE:	GENERAL ROUGHNESS:	TOLERANCES UNLESS OTHERWISE STATED:		UNIT	
			Ra 3.2 n um	DIMENSION:±0,2	ANGLE: ±1°		
TITLE:		FRONT PLATE ASSY					
			DOCUMENT NUMBER			FORMAT	SHEET
			RELEASE LEVEL:				

500-00006-01 - TOP PLATE ASSY

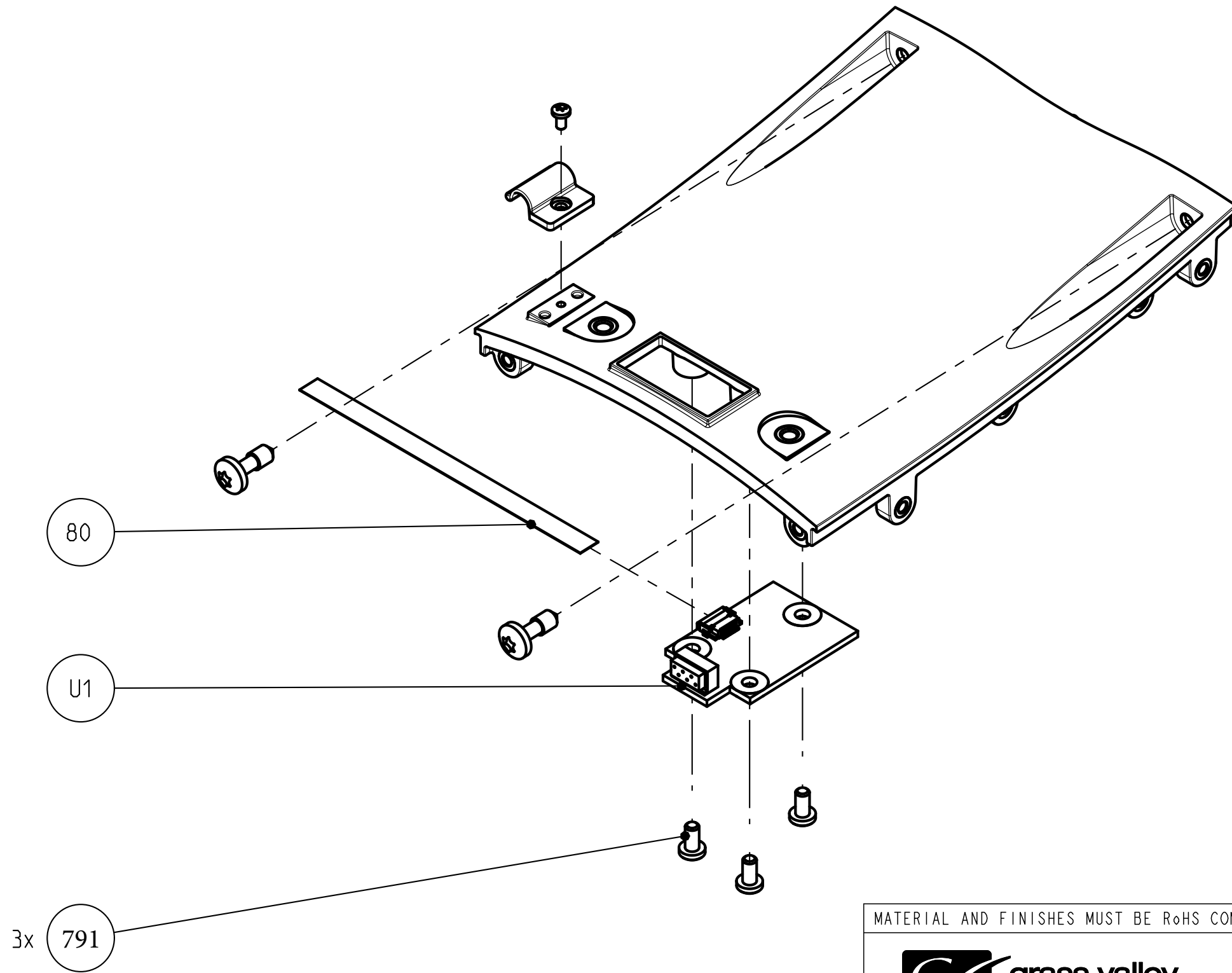
List of Field Replacable Units (FRUs):

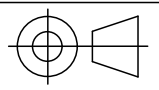
Pos	Part Number	Description	
U1	3922 406 56021	PCBA Handgrip IF Board	
791	4-000000020-00	FRU kit COMBI SCR PAN STL ST M3X6	50
	4-000000007-00	FRU kit CLB FLEX	

**FRU kit contains****Parts cannot be ordered separately**

	2422 015 18546	CLB FLEX 30P FFC 0.5 SUMICARD TL=81MM 30V	5
	3922 205 00005	CLB FLEX 10P FFC 0.5 SUMICARD TL=46MM 30V	5
	2422 015 19425	CLB FLEX 10P FFC 0.5 SUMICARD TL=138MM 30V	5
80	2422 015 18547	CLB FLEX 10P FFC 0.5 SUMICARD TL=78MM 30V	5
	3922 205 00123	CLB FLEX 30P FFC 0.5 SUMICARD TL=160MM 30V	5
	3922 205 00006	CLB FLEX 30P FFC 0.5 SUMICARD TL=56MM 30V	5
	2422 015 19905	CLB FLEX 30P FFC 0.5 SUMICARD TL=131MM 30V	5

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MATERIAL AND FINISHES MUST BE RoHS COMPLIANT				.		
		DOCUMENT NUMBER:	SHEET:			
DESCRIPTION: TOP PLATE ASSY						
GENERAL ROUGHNESS: Ra 3.2 um	IF TOLERANCE AND TOLERANCE TABLE ARE ABSENT THEN APPLY DIM ± 0.2 ANGLE $\pm 1^\circ$	UNIT:		SCALE:	FORMAT:	SHEET:

3922 407 55841 - COVER LEFT ASSY

List of Field Replacable Units (FRUs):

Pos	Part Number	Description	Quantity
781	4-000000023-00	FRU kit PAN CAP SCR STL.ST M3x10	10
791	4-000000020-00	FRU kit COMBI SCR PAN STL ST M3X6	50
U1	3922 406 55991	PCBA LSP BOARD	
U2	3922 406 56141	PCBA LSP Rotary Board	

4-000000007-00 FRU kit CLB FLEX



FRU kit contains

Parts cannot be ordered separately			
	2422 015 18546	CLB FLEX 30P FFC 0.5 SUMICARD TL=81MM 30V	5
81	3922 205 00005	CLB FLEX 10P FFC 0.5 SUMICARD TL=46MM 30V	5
	2422 015 19425	CLB FLEX 10P FFC 0.5 SUMICARD TL=138MM 30V	5
	2422 015 18547	CLB FLEX 10P FFC 0.5 SUMICARD TL=78MM 30V	5
	3922 205 00123	CLB FLEX 30P FFC 0.5 SUMICARD TL=160MM 30V	5
	3922 205 00006	CLB FLEX 30P FFC 0.5 SUMICARD TL=56MM 30V	5
	2422 015 19905	CLB FLEX 30P FFC 0.5 SUMICARD TL=131MM 30V	5

4-000000004-00 FRU kit cable head



FRU kit contains

Parts cannot be ordered separately			
82	3922 407 26063	POWER SWITCH ASSY	1
	3922 407 61435	12P WIRING POWER	1
	3922 407 61442	POWER CABLE ASSY	1
	3922 407 61453	SSB POWER CABLE	3

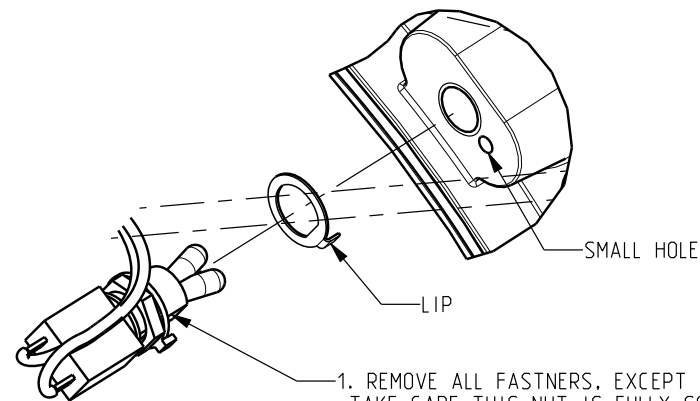
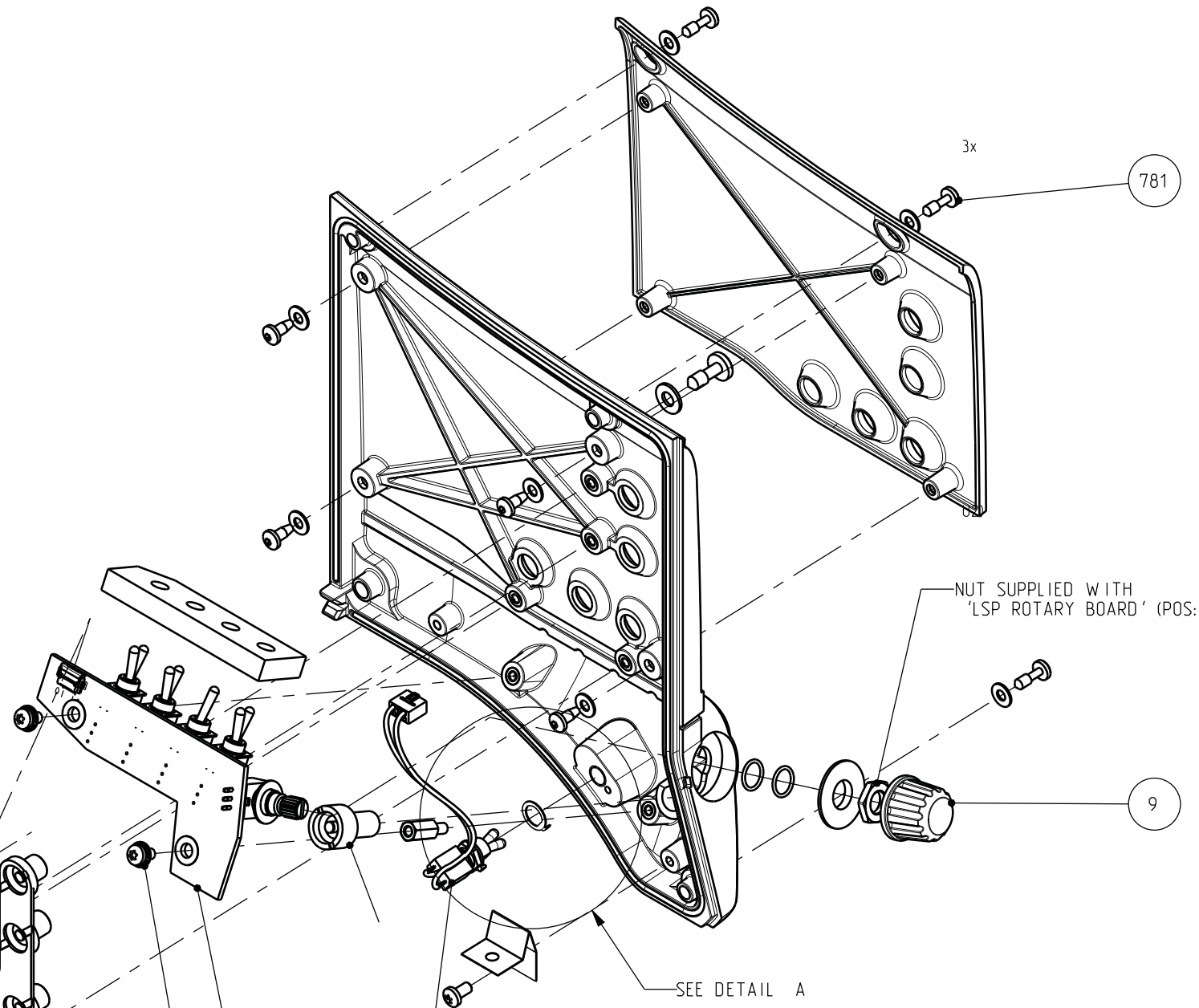
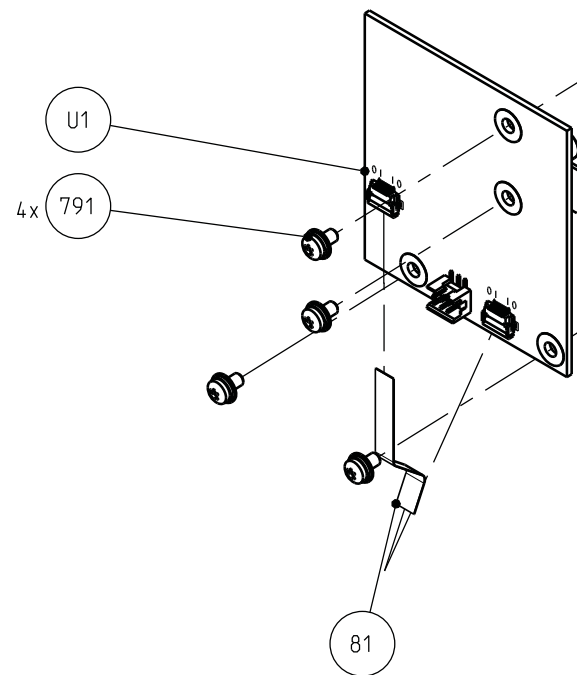
4-000000015-00 FRU kit Misc parts camera head



FRU kit contains

Parts cannot be ordered separately			
	3922 400 08501	SEALING VF-CONNECTOR	2
	3922 400 10041	CABLECLAMP	2
	3922 400 11642	VOLUME KNOB	2
9	3922 400 11651	ROTARY KNOB	2
	3922 407 24012	VF SCREW LONG ASSY	1
	3922 407 25553	CLAMPBOLT	1

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1. REMOVE ALL FASTNERS, EXCEPT ONE NUT. TAKE CARE THIS NUT IS FULLY SCREWED ONTO THE POWER SWITCH ASSY (POS 82).
2. PLACE WASHER (POS 12), THEN SCREW POWER SWITCH ASSY (POS 82) IN THE COVER LEFT PAINTED (POS 1). WHEN THE LIP OF THE WASHER TOUCHES THE ASSY, UNSCREW UNTIL THE LIP ALIGNS WITH THE SMALL HOLE IN ASSY.
3. THIGHTEN NUT FIXATING THE LIP IN THE HOLE.

DETAIL A
SCALE 3:2

MATERIAL:						SCALE
TREATMENT:						
FINISH:						
DRAWN BY:	DATE:	GENERAL ROUGHNESS:	TOLERANCES UNLESS OTHERWISE STATED:			UNIT
		Ra 3.2 n um	DIMENSION:±0,2	ANGLE: ±1°		mm
TITLE:	COVER LEFT ASSY					
 grass valley		DOCUMENT NUMBER			FORMAT	SHEET

500-00004-01 - COVER RIGHT ASSY

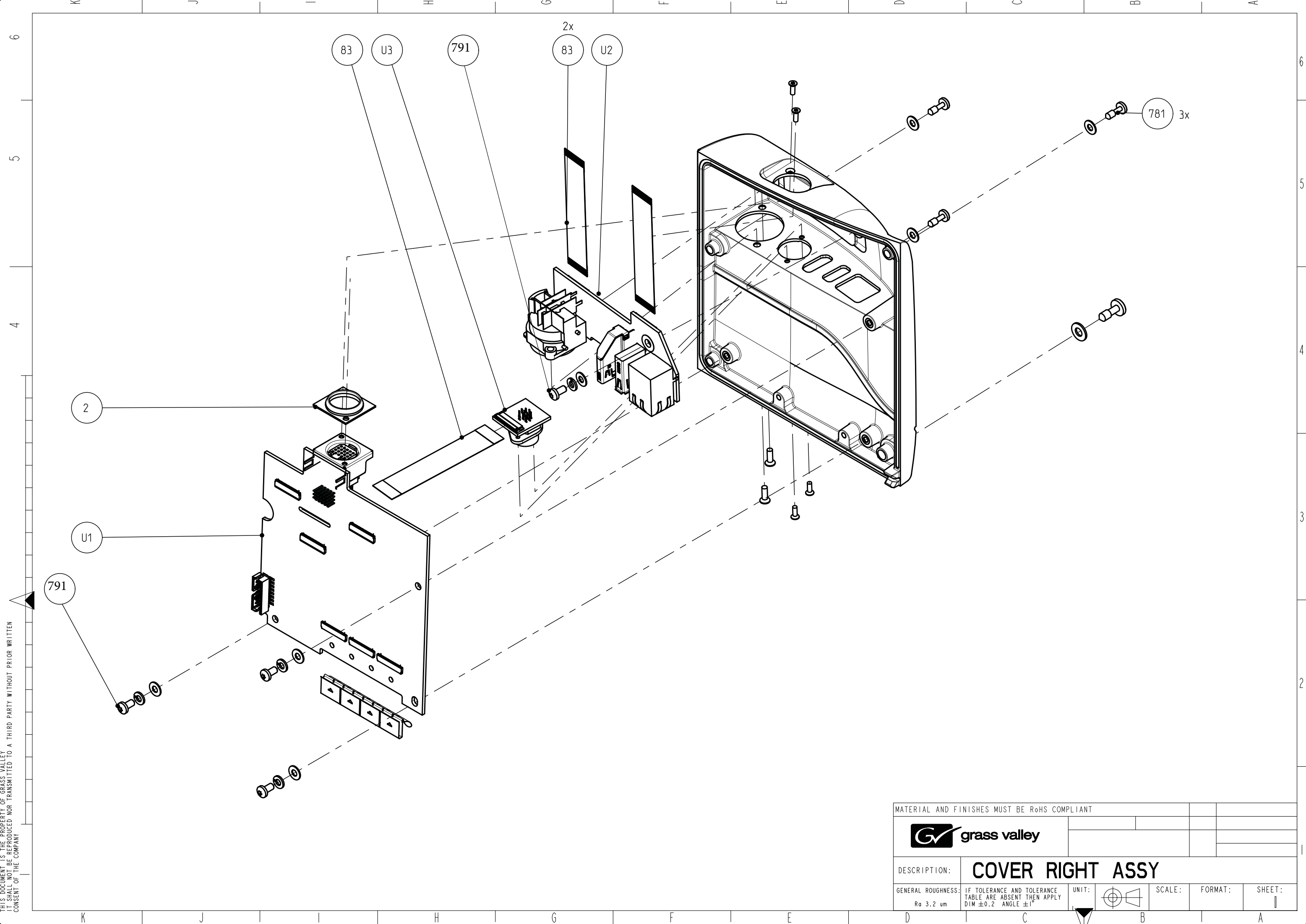
List of Field Replacable Units (FRUs):

Pos	Part Number	Description	Quantity
83	4-000000029-00	FRU kit PCB F--- GENERIC FPC 45P 0.3MM L=68MM Au	9
781	4-000000023-00	FRU kit PAN CAP SCR STL.ST M3x10	10
791	4-000000020-00	FRU kit COMBI SCR PAN STL ST M3X6	50
U1	3922 406 57271	PCBA HS RCB	
U2	3922 406 57401	PCBA HS HDMI AND MIC BOARD	
U3	3922 406 56331	PCBA Lens and RS232 Board	
	4-000000015-00	FRU kit Misc parts camera head	

**FRU kit contains**

Parts cannot be ordered separately			
2	3922 400 08501	SEALING VF-CONNECTOR	2
	3922 400 10041	CABLECLAMP	2
	3922 400 11642	VOLUME KNOB	2
	3922 400 11651	ROTARY KNOB	2
	3922 407 24012	VF SCREW LONG ASSY	1
	3922 407 25553	CLAMPBOLT	1

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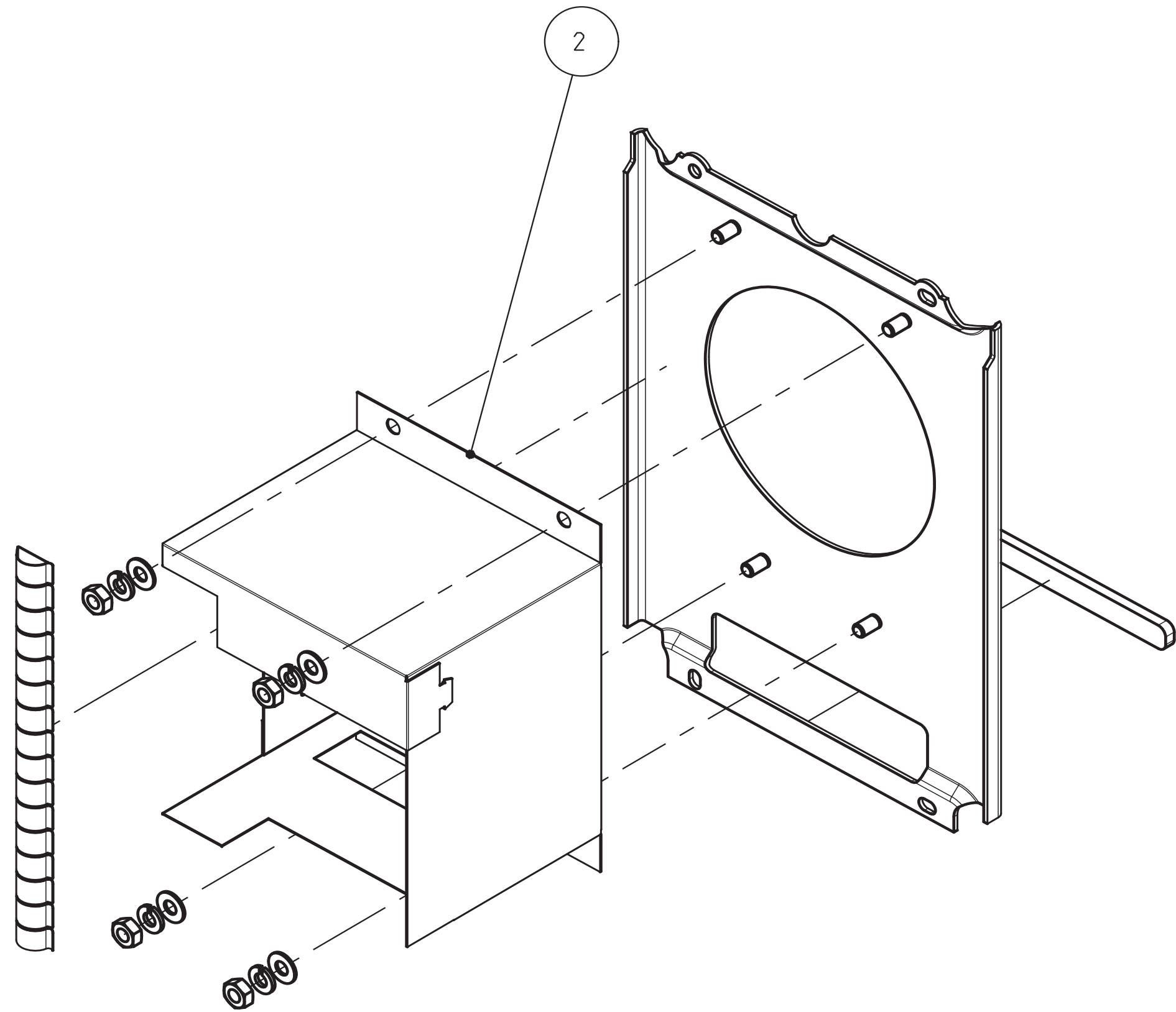
MATERIAL AND FINISHES MUST BE RoHS COMPLIANT								
								
DESCRIPTION:		COVER RIGHT ASSY						
GENERAL ROUGHNESS: Ra 3.2 um		IF TOLERANCE AND TOLERANCE TABLE ARE ABSENT THEN APPLY DIM ±0.2 ANGLE ±1°		UNIT: 	SCALE: 	FORMAT: 	SHEET: 	

500-00052-01 - DOCKINGPLATE ASSY 4K

List of Field Replacable Units (FRUs):

Pos	Part Number	Description	Quantity
2	4-000000038-00	FRU kit 4K AIR GUIDE	5

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MATERIAL AND FINISHES MUST BE RoHS COMPLIANT									
 grass valley									
DESCRIPTION:		DOCKINGPLATE ASSY							
GENERAL ROUGHNESS: Ra 3.2 um		IF TOLERANCE AND TOLERANCE TABLE ARE ABSENT THEN APPLY DIM ±0.2 ANGLE ±1°		UNIT: 		SCALE:	FORMAT:	SHEET:	

3922 407 40211 - DIG.ZOOM HANDGRIP ASSY

List of Field Replacable Units (FRUs):

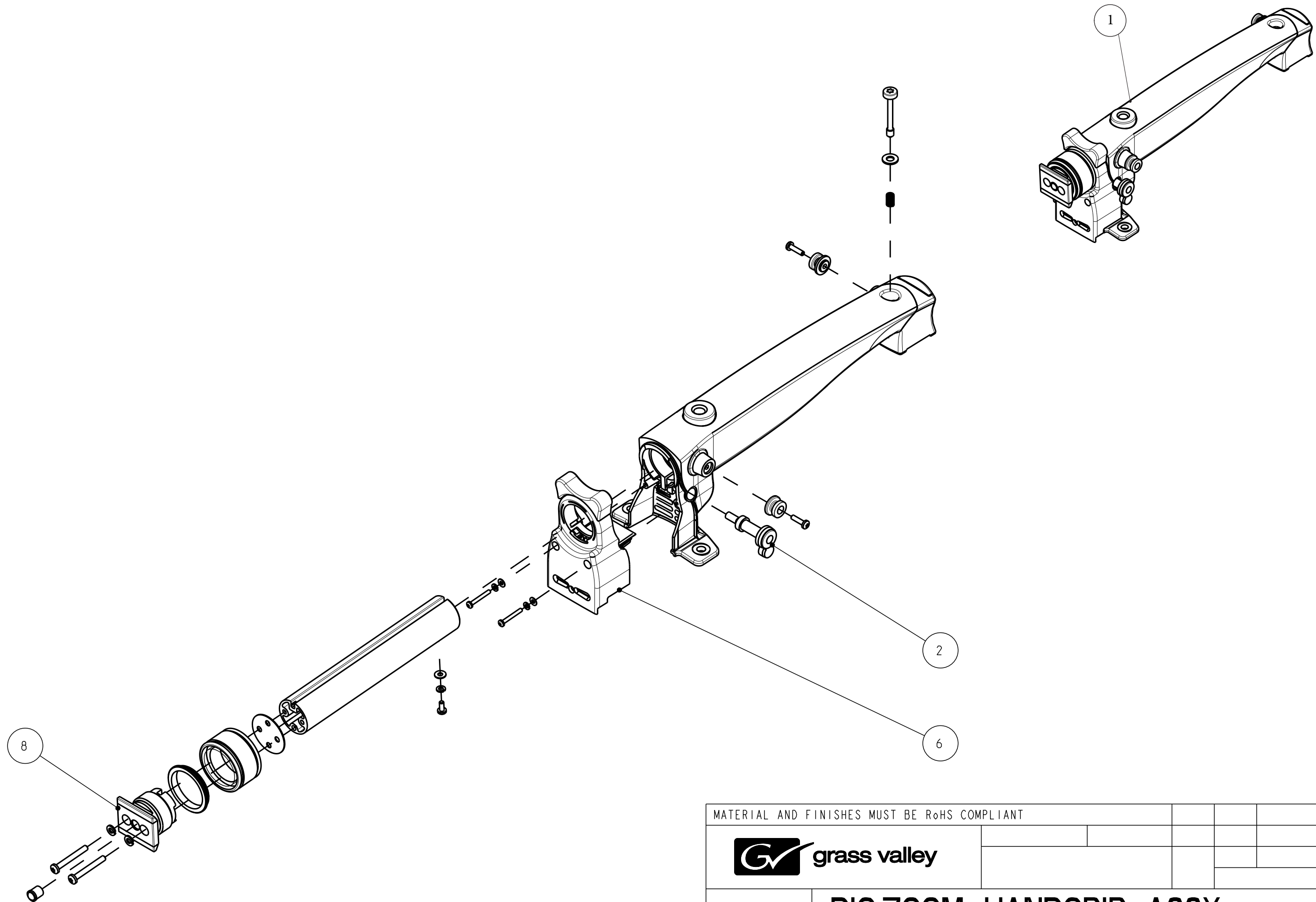
Pos	Part Number	Description	Quantity
1	3922 407 40211	DIG.ZOOM HANDGRIP ASSY	
6	3922 407 39502	ZOOMCONTROL ASSY	
	4-000000015-00	FRU kit Misc parts camera head	

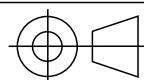


FRU kit contains

Parts cannot be ordered separately			
	3922 400 08501	SEALING VF-CONNECTOR	2
	3922 400 10041	CABLECLAMP	2
	3922 400 11642	VOLUME KNOB	2
	3922 400 11651	ROTARY KNOB	2
8	3922 407 24012	VF SCREW LONG ASSY	1
2	3922 407 25553	CLAMPBOLT	1

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MATERIAL AND FINISHES MUST BE RoHS COMPLIANT				
 grass valley				
DESCRIPTION:	DIG.ZOOM HANDGRIP ASSY			
GENERAL ROUGHNESS: Ra 3.2 um	IF TOLERANCE AND TOLERANCE TABLE ARE ABSENT THEN APPLY DIM ± 0.2 ANGLE $\pm 1^\circ$	UNIT: 	SCALE:	FORMAT:
				SHEET: