

C10DA Mini-Converter

1x6 Analog Video Distribution Amplifier

Installation & Operation Guide

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VIDEO SYSTEMS

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Notices

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Contacting Support

When calling for support, have all information at hand prior to calling.

To contact AJA for sales or support, use any of the following methods:

Telephone: +1.530.271.3190

FAX: +1.530.271.3140

Web: <http://www.aja.com>

Support Email: support@aja.com

Sales Email: sales@aja.com

Chapter 1: Introduction

Overview

The C10DA is a miniature, low-cost utility 1x6 analog video distribution amplifier that can be used for distributing analog video, bi-level video reference, and tri-level video reference signals. It can also be used to distribute other single ended signals such as AES3-id and Linear Timecode (LTC). Featuring six separately buffered analog outputs, the C10DA provides gain adjustment.

Features

Formats

- NTSC
- PAL
- Bi-level Reference
- Tri-level Reference
- AES3-id
- LTC

Inputs

- 1 Analog, Differential, 1 x BNC

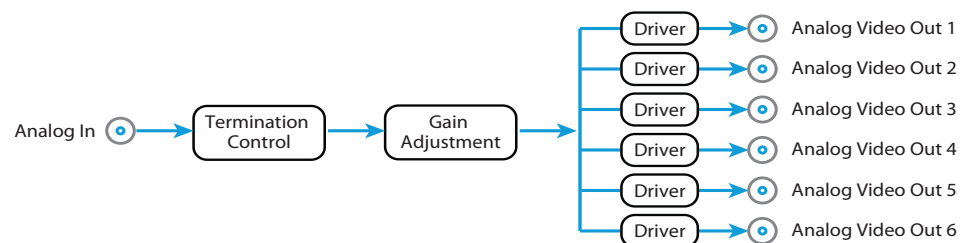
Outputs

- 6 Analog, 6 x BNC

User Controls

- External Dipswitch
 - Termination
 - Gain

Simplified Block Diagram



I/O Connections



Installation

Typically, C10DA installation consists of the following steps:

1. Disconnect power from the converter.
2. Connect video equipment to the BNCs.
3. Apply DC power to the converter.

Configuration

You can configure the C10DA by using the DIP Switches on the back of the unit.

NOTE: *There is no Mini-Config support for this product.*

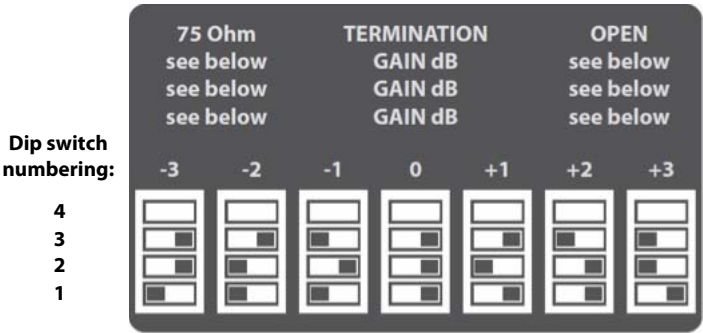
Input Termination Control

DIP Switch 4 determines whether the input is terminated (75 ohm) or open.

Put in the left position, the input is terminated. Put in the right position, the input is open.

Gain Control

The positions of DIP Switches 3, 2, and 1 determine the gain setting, from -3dB to +3dB in 1dB increments, as indicated in the illustration below.



DIP Switch Configuration Example 1



Input is Terminated In example 1, DIP Switch 4 is positioned to the left, meaning that the input is terminated.

Gain Control Set to +1dB In example 1, DIP Switches 3, 2, and 1 are configured for a gain control setting of +1dB.

DIP Switch Configuration Example 2



Input is Open In example 2, DIP Switch 4 is positioned to the right, meaning that the input is open.

Gain Control Set to 0 In example 2, DIP Switches 3, 2, and 1 are configured for a gain control setting of 0.

Appendix A: Specifications

Formats	• NTSC • PAL • Bi-level Reference • Tri-level Reference • AES3-id • LTC
Inputs	• 1 Analog, Differential, 1 x BNC
Outputs	• 6 Analog, 6 x BNC
Termination	• 75 Ohms or nonterminated
Video Bandwidth	• 0 – 6 MHz +/- 0.1dB
Gain	• -3dB, -2dB, -1dB, 0dB, +1dB, +2dB, or +3dB, +/- 0.3dB
Diff Gain	• 0.15%, not load dependent
Diff Phase	• 0.1 degree, not load dependent
H/V Tilt	• < 0.1%
Response Variation	• < 0.1dB 1 to 6 loads
Coupling	• DC
Max Common Mode Signal	• 10Vp-p
Return Loss	• > 35dB to 6 MHz all inputs and outputs
Output Isolation	• >40dB

User Controls

- External Dipswitch
 - Termination
 - Gain

Size (w x d x h)

- 5.8" x 3.1" x 1.0" (147mm x 79mm x 25mm)

Weight

- 12 oz.

Power

- 5VDC Regulated, 2 Watts, power supply required, included with purchase

Environment

Safe Operating Temperature • 0 to 40 degrees C (32 to 104 degrees F)

Safe Storage Temperature • -40 to 60 degrees C (-40 to 140 degrees F)
(Power OFF)

Operating Relative • 10-90% noncondensing
Humidity

Operating Altitude • <3,000 meters (<10,000 feet)

Appendix B: Safety and Compliance

Federal Communications Commission (FCC) Compliance Notices

Class A Interference Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15, Subpart B of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Canadian ICES Statement

Canadian Department of Communications Radio Interference Regulations

This digital apparatus does not exceed the Class A limits for radio-noise emissions from a digital apparatus as set out in the Radio Interference Regulations of the Canadian Department of Communications. This Class A digital apparatus complies with Canadian ICES-003.

Règlement sur le brouillage radioélectrique du ministère des Communications

Cet appareil numérique respecte les limites de bruits radioélectriques visant les appareils numériques de classe A prescrites dans le Règlement sur le brouillage radioélectrique du ministère des Communications du Canada. Cet appareil numérique de la Classe A est conforme à la norme NMB-003 du Canada.

European Union and European Free Trade Association (EFTA)

Regulatory Compliance

This equipment may be operated in the countries that comprise the member countries of the European Union and the European Free Trade Association. These countries, listed in the following paragraph, are referred to as The European Community throughout this document:

AUSTRIA, BELGIUM, BULGARIA, CYPRUS, CZECH REPUBLIC, DENMARK, ESTONIA, FINLAND, FRANCE, GERMANY, GREECE, HUNGARY, IRELAND, ITALY, LATVIA, LITHUANIA, LUXEMBOURG, MALTA, NETHERLANDS, POLAND, PORTUGAL, ROMANIA, SLOVAKIA, SLOVENIA, SPAIN, SWEDEN, UNITED KINGDOM, ICELAND, LICHENSTEIN, NORWAY, SWITZERLAND

Declaration of Conformity

Marking by this symbol indicates compliance with the Essential Requirements of the EMC Directive of the European Union 2014/30/EU



This equipment meets the following conformance standards:

- Safety:* EN 60065: 2002 + A1: 2006 + A11: 2008 + A2: 2010 + A12: 2011 (GS License)
IEC 60065: 2001 + A1: 2005 + A2: 2010 (CB Scheme Report/Certificate)
Additional licenses issued for specific countries available on request.
- Emissions:* EN 55032: 2012, EN 55022: 2010, CISPR 22: 2008,
EN 61000-3-2: 2014, EN 61000-3-3: 2013
- Immunity:* EN 55103-2: 2009, EN 61000-4-2: 2009, EN 61000-4-3: 2006 + A1: 2008 + A2: 2010,
EN 61000-4-4: 2004 + A1: 2010, EN 61000-4-5: 2006, EN 61000-4-6: 2009,
EN 61000-4-11: 2004
- Environments: E2, E3 and E4
- The product is also licensed for additional country specific standards as required for the International Marketplace.



Warning!

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 appropriate measures.

Achtung! Dieses ist ein Gerät der Funkstörgrenzwertklasse A. In Wohnbereichen können bei Betrieb dieses Gerätes Rundfunkstörungen auftreten, in welchen Fällen der Benutzer für entsprechende Gegenmaßnahmen verantwortlich ist.

Attention! Ceci est un produit de Classe A. Dans un environnement domestique, ce produit risque de créer des interférences radioélectriques, il appartiendra alors à l'utilisateur de prendre les mesures spécifiques appropriées.

Recycling Notice

	This symbol on the product or its packaging indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste for recycling, please contact your local authority, or where you purchased your product.
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Korean KCC Compliance Statement

A급 기기 (업무용 방송통신기자재)	이 기기는 업무용(A급) 전자파적합기기로서 판매자 또는 사용자는 이 점을 주의하시기 바라며, 가정외의 지역에서 사용하는 것을 목적으로 합니다.
Class A (Broadcasting Communication Equipment for Office Use)	As an electromagnetic wave equipment for office use (Class A), this equipment is intended to use in other than home area. Sellers or users need to take note of this.

Taiwan Compliance Statement

警告使用者：
這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。

This is a Class A product based on the standard of the Bureau of Standards, Metrology and Inspection (BSMI) CNS 13438, Class A. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Japanese Compliance Statement

1. Class A ITE

この装置は、クラスA 情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。VCCI-A

This is a Class A product based on the standard of the VCCI Council (VCCI V-3/2015.04). If this equipment is used in a domestic environment, radio interference may occur, in which case, the user may be required to take corrective actions.

Translated Warning and Caution Messages

The following caution statements, warning conventions, and warning messages apply to this product and manual.



Warning Symbol



Caution Symbol

Before Operation Please Read These Instructions

	Warning! Read and follow all warning notices and instructions marked on the product or included in the documentation. Avertissement ! Lisez et conformez-vous à tous les avis et instructions d'avertissement indiqués sur le produit ou dans la documentation. Warnung! Lesen und befolgen Sie die Warnhinweise und Anweisungen, die auf dem Produkt angebracht oder in der Dokumentation enthalten sind. ¡Advertencia! Lea y siga todas las instrucciones y advertencias marcadas en el producto o incluidas en la documentación. Aviso! Leia e siga todos os avisos e instruções assinalados no produto ou incluídos na documentação. Avviso! Leggere e seguire tutti gli avvisi e le istruzioni presenti sul prodotto o inclusi nella documentazione.
	Warning! Do not use this device near water and clean only with a dry cloth. Avertissement! N'utilisez pas cet appareil près de l'eau et nettoyez-le seulement avec un tissu sec.. Warnung! Das Gerät nicht in der Nähe von Wasser verwenden und nur mit einem trockenen Tuch säubern. ¡Advertencia! No utilice este dispositivo cerca del agua y límpielo solamente con un paño seco. Aviso! Não utilize este dispositivo perto da água e limpe-o somente com um pano seco. Avviso! Non utilizzare questo dispositivo vicino all'acqua e pulirlo soltanto con un panno asciutto.

	Warning! Do not block any ventilation openings. Install in accordance with the manufacturer's instructions. Avertissement ! Ne bloquez aucune ouverture de ventilation. Suivez les instructions du fabricant lors de l'installation. Warnung! Die Lüftungsöffnungen dürfen nicht blockiert werden. Nur gemäß den Anweisungen des Herstellers installieren. ¡Advertencia! No bloquee ninguna de las aberturas de la ventilación. Instale de acuerdo con las instrucciones del fabricante. Aviso! Não obstrua nenhuma das aberturas de ventilação. Instale de acordo com as instruções do fabricante. Avviso! Non ostruire le aperture di ventilazione. Installare in conformità con le istruzioni del fornitore.
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	Warning! Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat. Avertissement ! N'installez pas l'appareil près d'une source de chaleur telle que des radiateurs, des bouches d'air de chauffage, des fourneaux ou d'autres appareils (amplificateurs compris) qui produisent de la chaleur. Warnung! Nicht in der Nähe von Wärmequellen wie Heizkörpern, Heizregistern, Öfen oder anderen Wärme erzeugenden Geräten (einschließlich Verstärkern) aufstellen. ¡Advertencia! No instale cerca de fuentes de calor tales como radiadores, registros de calor, estufas u otros aparatos (incluidos amplificadores) que generan calor. Aviso! Não instale perto de nenhuma fonte de calor tal como radiadores, saídas de calor, fogões ou outros aparelhos (incluindo amplificadores) que produzam calor. Avviso! Non installare vicino a fonti di calore come termosifoni, diffusori di aria calda, stufe o altri apparecchi (amplificatori compresi) che emettono calore.
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	Warning! Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the device. Avertissement! Protégez le cordon d'alimentation pour que l'on ne marche pas dessus ou qu'on le pince, en particulier au niveau des prises mâles, des réceptacles de convenance, et à l'endroit où il sort de l'appareil. Warnung! Vermeiden Sie, dass auf das Netzkabel getreten oder das Kabel geknickt wird, insbesondere an den Steckern, den Steckdosen und am Kabelausgang am Gerät. ¡Advertencia! Proteja el cable de energía para que no se le pise ni apriete, en especial cerca del enchufe, los receptáculos de conveniencia y el punto del que salen del equipo. Aviso! Proteja o cabo de alimentação de ser pisado ou de ser comprimido particularmente nas fichas, em tomadas de parede de conveniência e no ponto de onde sai do dispositivo. Avviso! Proteggere il cavo di alimentazione in modo che nessuno ci cammini sopra e che non venga schiacciato soprattutto in corrispondenza delle spine e del punto in cui esce dal dispositivo.
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	Warning! Unplug this device during lightning storms or when unused for long periods of time. Avertissement! Débranchez cet appareil pendant les orages avec éclairsou s'il est inutilisé pendant de longues périodes. Warnung! Das Gerät ist bei Gewitterstürmen oder wenn es über lange Zeiträume ungenutzt bleibt vom Netz zu trennen. ¡Advertencia! Desenchufe este dispositivo durante tormentas eléctricas o cuando no se lo utilice por largos periodos del tiempo. Aviso! Desconecte este dispositivo da tomada durante trovoadas ou quando não é utilizado durante longos períodos de tempo. Avviso! Utilizzare soltanto i collegamenti e gli accessori specificati e/o venduti dal produttore, quali il treppiedi e l'esoscheletro.
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**Warning!**

Do not open the chassis. There are no user-serviceable parts inside. Opening the chassis will void the warranty unless performed by an AJA service center or licensed facility.

Avertissement! Ne pas ouvrir le châssis. Aucun élément à l'intérieur du châssis ne peut être réparé par l'utilisateur. La garantie sera annulée si le châssis est ouvert par toute autre personne qu'un technicien d'un centre de service ou d'un établissement agréé AJA.

Warnung! Öffnen Sie das Gehäuse nicht. Keine der Geräteteile können vom Benutzer gewartet werden. Durch das Öffnen des Gehäuses wird die Garantie hinfällig, es sei denn, solche Wartungsarbeiten werden in einem AJA-Service-Center oder einem lizenzierten Betrieb vorgenommen.

¡Advertencia! No abra el chasis. El interior no contiene piezas reparables por el usuario. El abrir el chasis anulará la garantía a menos que se lo haga en un centro de servicio AJA o en un local autorizado.

Advertência! Não abra o chassi. Não há internamente nenhuma peça que permita manutenção pelo usuário. Abrir o chassi anula a garantia, a menos que a abertura seja realizada por uma central de serviços da AJA ou por um local autorizado.

Avvertenza! Non aprire lo chassis. All'interno non ci sono parti riparabili dall'utente. L'apertura dello chassis invaliderà la garanzia se non viene effettuata da un centro ufficiale o autorizzato AJA.

**Warning!**

Refer all servicing to qualified service personnel. Servicing is required when the device has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the device, the device has been exposed to rain or moisture, does not operate normally, or has been dropped.

Avertissement ! Référez-vous au personnel de service qualifié pour tout entretien. L'entretien est exigé quand l'appareil a été endommagé de quelque manière que ce soit, par exemple lorsque le cordon d'alimentation ou la prise sont endommagés, que du liquide a été versé ou des objets sont tombés dans l'appareil, que l'appareil a été exposé à la pluie ou à l'humidité, ne fonctionne pas normalement ou est tombé.

Warnung! Das Gerät sollte nur von qualifizierten Fachkräften gewartet werden. Eine Wartung ist fällig, wenn das Gerät in irgendeiner Weise beschädigt wurde, wie bei beschädigtem Netzkabel oder Netzstecker, falls Flüssigkeiten oder Objekte in das Gerät gelangen, das Gerät Regen oder Feuchtigkeit ausgesetzt wurde, nicht ordnungsgemäß funktioniert oder fallen gelassen wurde.

¡Advertencia! Consulte al personal calificado por cuestiones de reparación. El servicio de reparación se requiere cuando el dispositivo ha recibido cualquier tipo de daño, por ejemplo cable o espigas dañadas, se ha derramado líquido o se han caído objetos dentro del dispositivo, el dispositivo ha sido expuesto a la lluvia o humedad, o no funciona de modo normal, o se ha caído.

Aviso! Remeta todos os serviços de manutenção para o pessoal de assistência qualificado. A prestação de serviços de manutenção é exigida quando o dispositivo foi danificado mediante qualquer forma, como um cabo de alimentação ou ficha que se encontra danificado/a, quando foi derramado líquido ou caíram objectos sobre o dispositivo, quando o dispositivo foi exposto à chuva ou à humidade, quando não funciona normalmente ou quando foi deixado cair.

Avviso! Fare riferimento al personale qualificato per tutti gli interventi di assistenza. L'assistenza è necessaria quando il dispositivo è stato danneggiato in qualche modo, ad esempio se il cavo di alimentazione o la spina sono danneggiati, è stato rovesciato del liquido è stato rovesciato o qualche oggetto è caduto nel dispositivo, il dispositivo è stato esposto a pioggia o umidità, non funziona correttamente o è caduto.

**Warning!**

Only use attachments and accessories specified and/or sold by the manufacturer.

Avertissement! Utilisez seulement les attaches et accessoires spécifiés et/ou vendus par le fabricant.

Warnung! Verwenden Sie nur Zusatzgeräte und Zubehör angegeben und / oder verkauft wurde durch den Hersteller.

¡Advertencia! Utilice solamente los accesorios y conexiones especificados y/o vendidos por el fabricante.

Aviso! Utilize apenas equipamentos/acessórios especificados e/ou vendidos pelo fabricante.

Avviso! Utilizzare soltanto i collegamenti e gli accessori specificati e/o venduti dal produttore.

Warranty Information

Limited Warranty

AJA Video Systems, Inc. (AJA Video) warrants that this product will be free from defects in materials and workmanship for a period of five years from the date of purchase. If a product proves to be defective during this warranty period, AJA Video, at its option, will either repair the defective product without charge for parts and labor, or will provide a replacement in exchange for the defective product.

In order to obtain service under this warranty, you the Customer, must notify AJA Video of the defect before the expiration of the warranty period and make suitable arrangements for the performance of service. The Customer shall be responsible for packaging and shipping the defective product to a designated service center nominated by AJA Video, with shipping charges prepaid. AJA Video shall pay for the return of the product to the Customer if the shipment is to a location within the country in which the AJA Video service center is located. Customer shall be responsible for paying all shipping charges, insurance, duties, taxes, and any other charges for products returned to any other locations.

This warranty shall not apply to any defect, failure or damage caused by improper use or improper or inadequate maintenance and care. AJA Video shall not be obligated to furnish service under this warranty a) to repair damage resulting from attempts by personnel other than AJA Video representatives to install, repair or service the product, b) to repair damage resulting from improper use or connection to incompatible equipment, c) to repair any damage or malfunction caused by the use of non-AJA Video parts or supplies, or d) to service a product that has been modified or integrated with other products when the effect of such a modification or integration increases the time or difficulty of servicing the product.

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