tvONE

CORIOmatrix / CORIOmatrix mini

Manual

Version 1.1.1

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Disclaimer/Safety

Disclaimer

This product is intended for professional use. This product is not intended for use in a medical environment and does not have the required certifications for such use. Similarly, use aboard any aircraft or spacecraft while in flight or as an adjunct to any surface, airborne or marine navigation system or any offshore marine activity, including control of any watercraft, or any use similar to those specifically herein mentioned is prohibited. Use in the aforementioned circumstances would require additional testing and certification.

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Regulatory Agency Acceptance

European 'CE' Mark Statement

Emissions:	
Radiated magnetic interference, 50 Hz to 50 kHz	EN 55103-1:2009 Environment E1, E2, E3, & E4
Radiated disturbance	EN 55103-1:2009 Environment E4
Conducted disturbance, AC and signal ports	EN 55103-1:2009 Environment E4
Radiated disturbance, 1000 to 4000 MHz	FCC/CFR 47; Part 15: 2009 | Canadian Standard ICES-003:Issue 4
Immunity:	
Electrostatic discharge	
Radiated RF disturbance	
Magnetic LF disturbance, 50 Hz to 10 kHz	
Fast transient bursts, AC port and signal ports	EN 55103-2:2009 Environment E1, E2, E3, E4
Conducted RF field, AC port and signal ports	
Surges AC port	
Dips and outages	

For Low Voltage Directive (LVD): EN 60065:2002 + Amd 1:2006 + Amd 11:2008

FCC Statement

Class A Device: 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 a 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.

Caution: This equipment is intended for use in the manner prescribed in the Instruction Manual. Any user changes or modifications not expressly approved by tvONE could void the user's authority to operate the equipment. Connecting this equipment to external devices requires appropriate cabling for FCC compliance. The Instruction Manual shows or describes the proper connection of this equipment for operation that insures FCC compliance.

Direct all inquiries regarding FCC compliance to:

tvONE
2791 Circleport Drive
Erlanger, KY 41018
USA
Tel 859-282-7303
Fax 859-282-8225

End User License Agreement

END USER LICENSE AGREEMENT

FOR TV ONE CORIOmatrix WEB INTERFACE SOFTWARE

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Patent Pending

CONTACT INFORMATION

If you have any questions about this Agreement, or want to contact Licensor for any reason, please direct all correspondence to:

TV ONE Limited Legal Department

Continental Approach,

Westwood Ind. Est,

Margate, Kent CT9 4JG

For **Customer Support** please contact:

tech.usa@tvone.com or **tech.europe@tvone.com** or refer to **http://www.tvone.com/contact_info.shtml**

Safety Instructions

To insure the best from this product, please read this manual carefully.

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Clean only with a dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- This unit must be connected to a mains socket outlet with a protective earth connection.
- The AC wall outlet should be installed near to the unit and be easily accessible.
- Only use attachments / accessories specified by the manufacturer.
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified servicing personnel. Servicing is required when the apparatus 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 apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

  WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

- The AC power cord or adapter furnished with the unit should conform to the type in use in your country. Please compare the plug on your cord or adapter with the power socket where the unit will be installed.
  If you did not receive the correct plug, DO NOT attempt to modify it. Instead, immediately contact your dealer or contact tvONE at the sales office nearest to your geographic location and request the proper plug.

CONSIGNE IMPORTANTE DE SECURITE

Pour obtenir les meilleures performances avec ce produit, nous vous demandons de lire soigneusement ce manuel.

- Lisez ces consignes
- Conservez ces consignes
- Respectez tous les avertissements
- Respectez toutes les consignes
- N'utilisez pas cet appareil à proximité d'eau
- Nettoyez-le en utilisant uniquement un chiffon sec
- Ne bloquez pas les ouvertures de ventilation. Installez cet appareil en respectant les consignes du constructeur
- Ne procédez pas à une installation à proximité de sources de chaleur, quelles qu'elles soient, (radiateurs, registres calorifiques, fours, etc.) ou d'autres appareils (dont des amplificateurs) qui produisent de la chaleur
- Ne cherchez pas à détourner l'objectif de la prise électrique à polarisation ou à mise à la masse. Une prise électrique polarisée comporte deux lames de largeurs différentes. Une prise à mise à la masse a deux lames et une broche de mise à la masse. La lame la plus large ou la troisième broche ont pour but de vous protéger. Si la prise fournie ne correspond pas à la prise murale, consultez un électricien pour remplacer l'élément obsolète
- Protégez le cordon électrique pour éviter que l'on ne marche dessus ou qu'on ne le coince, en particulier au niveau des prises mâles ou des prises murales et au niveau de l'appareil
- Il faut brancher l'appareil sur une prise du secteur disposant d'une mise à la terre.
- La prise murale de courant doit être installée près de l’unité et aisément accessible.
- Utilisez uniquement les fixations et accessoires spécifiés par le fabricant
- Débranchez cet appareil durant les orages électriques ou pendant les périodes prolongées d'inactivité
- Confiez toutes les interventions d'entretien à un personnel qualifié spécialisé dans l'entretien. Une intervention d'entretien s'avère nécessaire lorsque cet appareil a été endommagé, d'une façon ou d'une autre, par exemple lorsque le cordon d'alimentation électrique ou sa prise est endommagé, lorsqu'il y a eu un épanchement de liquide ou lorsque des objets sont tombés sur cet appareil, voire même lorsque cet appareil a été exposé à de la pluie ou une humidité, ne fonctionne pas normalement ou est tombé.

WARNING: AVERTISSEMENT Pour réduire tout risque d'incendie ou de choc électrique, n'exposez pas cet appareil à la pluie ou à une humidité.

- Le câble d'alimentation secteur ou l'adaptateur remis avec cet appareil doit être conforme au type employé dans votre pays. Veuillez comparer la prise de votre cordon électrique ou de votre adaptateur à la prise murale de l'emplacement où doit être installé votre appareil.

Si vous n'avez pas reçu la bonne prise, **N'ESSAYEZ PAS** de la modifier. Vous devez au contraire immédiatement contacter votre revendeur ou le bureau de vente TV One le plus proche de chez vous pour demander la bonne prise.

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WICHTIGE SICHERHEITSANWEISUNGEN

Lesen Sie diese Bedienungsanleitung sorgfältig, um zu gewährleisten, dass Sie den optimalen Nutzen aus diesem Produkt ziehen.

- Lesen Sie diese Anweisungen.
- Bewahren Sie diese Anweisungen auf.
- Beachten Sie alle Warnhinweise.
- Befolgen Sie alle Anweisungen.
- Verwenden Sie dieses Gerät nicht in der Nähe von Wasser.
- Verwenden Sie zur Reinigung nur ein trockenes Tuch.
- Blockieren Sie keine Lüftungsöffnungen. Installieren Sie das Gerät nach den Anweisungen des Herstellers.
- Stellen Sie das Gerät nicht in der Nähe von Wärmequellen wie etwa Heizkörpern, Heizklappen, Öfen oder anderen Wärme erzeugenden Geräten (einschließlich Verstärkern) auf.
- Setzen Sie den Sicherheitszweck von unvertauschbaren Steckern oder Erdungssteckern nicht außer Kraft. Ein unvertauschbarer Stecker besitzt zwei Messerkontakte, von denen einer breiter als der andere ist. Ein Erdungsstecker besitzt zwei Messerkontakte und einen dritten Erdungskontakt. Der breitere Messerkontakt oder der Erdungskontakt dient Ihrer Sicherheit. Falls der mitgelieferte Stecker nicht an eine Steckdose angeschlossen werden kann, beauftragen Sie einen Elektriker, die veraltete Steckdose auszutauschen.
- Schützen Sie das Netzkabel, so dass niemand auf das Netzkabel treten kann oder es insbesondere an Steckern, Steckdosen und an der Stelle, an der das Netzkabel aus dem Gerät geführt wird, nicht eingeklemmt werden kann.
- Verwenden Sie nur Zusatzgeräte/Zubehör, die/das der Hersteller angibt.
- Ziehen Sie den Netzstecker dieses Geräts bei Gewittern und auch dann ab, wenn es über einen längeren Zeitraum nicht betrieben wird.

- Lassen Sie Reparaturen nur von qualifiziertem Wartungspersonal durchführen. Reparaturen sind erforderlich, wenn das Gerät in irgendeiner Form beschädigt wurde, beispielsweise das Netzkabel oder der Stecker beschädigt wurde, Flüssigkeit auf dem Gerät verschüttet wurde oder Objekte in das Gerät gefallen sind, das Gerät Regen oder Feuchtigkeit ausgesetzt wurde, nicht normal arbeitet oder fallen gelassen wurde.

WARNING: WARNUNG: Setzen Sie das Gerät weder Regen noch Feuchtigkeit aus, um die Gefahr eines Brandes oder elektrischen Schlags zu minimieren.

- Das mitgelieferte Netzkabel oder der mitgelieferte Adapter müssen dem in Ihrem Land verwendeten Typ entsprechen. Vergleichen Sie den Netzstecker oder Adapter mit der Netzsteckdose, an die das Gerät angeschlossen wird.

Falls Sie nicht den richtigen Stecker erhalten haben, versuchen Sie **NICHT**, ihn zu ändern. Setzen Sie sich stattdessen mit Ihrem Fachhändler oder der Verkaufsniederlassung von TV One in Verbindung, die sich am nächsten an Ihrem Wohnort befindet, und fordern Sie den richtigen Stecker an.

Geistiges Eigentum

Einige IC-Chips in diesem Produkt enthalten vertrauliche Informationen und/oder Geschäftsgeheimnisse. Aus diesem Grund dürfen Sie deren Inhalt nicht kopieren, ändern, anpassen, übersetzen, verteilen zurückentwickeln oder dekompilieren.

INSTRUCCIONES IMPORTANTES DE SEGURIDAD

Para garantizar el máximo rendimiento de este producto, lea cuidadosamente este manual.

- Lea estas instrucciones
- Guarde estas instrucciones
- Respete todas las advertencias
- Siga todas las instrucciones
- No use este aparato cerca del agua
- Límpielo sólo con un paño seco
- No bloquee ninguna abertura de ventilación. Instálelo de acuerdo con las instrucciones del fabricante
- No lo instale cerca de fuentes de calor como radiadores, salidas de aire caliente, estufas u otros aparatos (incluyendo amplificadores) que produzcan calor.
- Respete la finalidad de seguridad de las clavijas polarizadas o con toma de tierra. Una clavija polarizada tiene dos cuchillas, una más ancha que la otra. Una clavija del tipo de puesta a tierra tiene dos cuchillas y un tercer borne para puesta a tierra. La cuchilla más ancha o el tercer borne son para su seguridad. Si la clavija suministrada no se adapta a su toma de corriente, consulte a un electricista para que cambie la toma obsoleta.

- Proteja el cable de alimentación para que no se pueda pisar ni pellizcar, especialmente junto a las clavijas, tomas de corriente, y en el punto de salida de las mismas en el aparato.
- Use sólo accesorios / elementos especificados por el fabricante
- Desenchufe el aparato durante las tormentas eléctricas o si no va a usarlo durante un largo período de tiempo.
- Consulte con personal cualificado cualquier tipo de servicio. Se necesitará servicio cuando el aparato haya sufrido daños de cualquier tipo, como daños en el cable de alimentación o en las clavijas, haya entrado líquido o se hayan caído objetos dentro del aparato, haya estado expuesto a la lluvia o humedad, no funcione normalmente o se haya caído.

WARNING: ADVERTENCIA: Para reducir el riesgo de incendio o electrocución, no exponga el aparato a la lluvia ni la humedad.

- El cable de alimentación de C.A o el adaptador suministrado con la unidad debe ser conforme al tipo usado en su país. Compare la clavija en su cable o adaptador con la toma de corriente donde vaya a instalar la unidad.

Si no ha recibido la clavija correcta, **NO** intente modificarla. Póngase inmediatamente en contacto con su distribuidor o con TV One en la oficina de ventas más cercana a su localización geográfica y solicite la clavija adecuada.

Propiedad intelectual

Algunos chips con circuitos integrados presentes en este producto incluyen propiedad confidencial y/o secreta del sector. Por lo tanto, usted no puede copiar, modificar, adaptar, traducir, distribuir, diseñar a la inversa, montar a la inversa o descompilar el contenido de los mismos.

BELANGRIJKE VEILIGHEIDSINSTRUCTIE

Om dit product optimaal te kunnen gebruiken, dient u deze handleiding aandacht te lezen.

- Lees deze instructies
- Bewaar deze instructies
- Let op alle waarschuwingen
- Volg alle instructies
- Gebruik dit apparaat niet in de nabijheid van water
- Reinig het apparaat alleen met een droge doek
- Blokkeer geen ventilatieopeningen. Installeer het apparaat volgens de instructies van de fabrikant

- Plaats het apparaat niet in de nabijheid van warmtebronnen zoals radiatoren, kachels, warmtesensoren zoals thermometers, of andere apparaten (waaronder versterkers) die warmte afgeven.
- Omzeil het beveiligingsoogmerk van de gepolariseerde of geaarde stekker niet. Een gepolariseerde stekker heeft twee pinnen, waarvan de een breder is dan de ander. Een geaarde stekker heeft twee pinnen, en een derde pin; een zogeheten aardlekpin. De bredere pin of aardlekpin is er voor uw veiligheid. Als de geleverde stekker niet in het stopcontact past, vraag dan een elektricien om het verouderde stopcontact te vervangen.
- Bescherm de netspanningkabel zodanig dat er niet op kan worden gelopen en dat er geen kink in kan komen, vooral bij de stekker, pinnen, en bij de aansluiting op het apparaat
- Gebruik alleen de accessoires en onderdelen die door de fabrikant worden aanbevolen
- Haal de stekker van dit apparaat bij onweer uit het stopcontact. Doe dit ook wanneer het apparaat lange tijd niet wordt gebruikt.
- Laat alle onderhoud over aan gekwalificeerd personeel. Onderhoud is vereist wanneer het apparaat op enigerlei wijze is beschadigd, bijvoorbeeld in het geval van een beschadigd netsnoer of een beschadigde stekker, wanneer er vloeistof op het apparaat is gemorst, of wanneer er een voorwerp in het apparaat is gevallen, wanneer het apparaat is blootgesteld aan regen of vocht, niet normaal functioneert, of is gevallen.

  WARNING: WAARSCHUWING Om het risico op brand of een elektrische schok te verkleinen, dient u dit apparaat niet bloot te stellen aan regen of vocht.

- Het type wisselspanningkabel of adapter dat met deze eenheid is geleverd, dient overeen te komen met wat in uw land wordt gebruikt. Vergelijk de stekker van de kabel of adapter met het stopcontact waarop de eenheid wordt aangesloten.

Als u niet de juiste stekker hebt ontvangen, breng dan zelf **GEEN** wijzigingen aan. Neem in plaats daarvan direct contact op met uw dealer of met de afdeling verkoop van TV One die zich het dichtst bij u in de buurt bevindt en vraag om de juiste stekker.

Intellectueel eigendom

In bepaalde IC-chips in dit product zijn vertrouwelijke informatie en/of geheime handelseigendommen opgenomen. Het is u daarom niet toegestaan om de inhoud ervan te kopiëren, wijzigen, aanpassen, vertalen, verspreiden, te onderwerpen aan reverse engineering, reverse assembling, of te decompileren.

VIKTIGA SÄKERHETSANVISNINGAR

För att få ut det bästa av din produkt bör du läsa denna bruksanvisning noggrant.

- Läs dessa anvisningar
- Spara dessa anvisningar

- Rätta dig efter alla varningar
- Följ alla instruktioner
- Använd inte enheten nära vatten
- Rengör enheten endast med torr trasa
- Blockera inte ventilationsöppningarna. Installera enheten enligt tillverkarens anvisningar
- Placera inte enheten nära värmekällor, som värmeelement, varmluftsintag, spisar eller annan utrustning (inklusive förstärkare) som producerar värme.
- Försök inte använda en stickkontakt i ett uttag som den inte är utformad att användas i. En polariserad kontakt har två blad – det ena bredare än det andra. En jordad kontakt har två blad och ett tredje jordstift. Det breda bladet eller jordstiftet är till för din säkerhet. Om den medföljande stickkontakten inte passar i ditt eluttag måste du kontakta en elektriker för att få eluttaget utbytt.
- Skydda nätsladden så att man inte kan trampa på den eller klämma den, särskilt intill stickkontakten, vid grenuttag och där den kommer ut från enheten.
- Använd bara anslutningar och tillbehör som specificeras av tillverkaren.
- Dra ur nätsladden före åskväder eller när enheten inte ska användas en längre tid.
- Överlåt all service åt kvalificerad servicepersonal. Service krävs när enheten är skadad på något sätt, t.ex. om nätsladden eller stickkontakten har skadats, om vätska eller främmande föremål har kommit in i enheten, om enheten har utsatts för regn eller fukt, om den inte fungerar normalt eller om den har tappats i golvet.

  WARNING: VARNING Med tanke på risken för brand och elchock får enheten inte utsättas för regn eller fukt.

- Den medföljande nätsladden eller adaptorn måste vara av den typ som används i ditt land. Jämför stickkontakten på nätsladden eller adaptorn med eluttaget där enheten ska installeras.

Om du inte fick rätt stickkontakt **FÅR DU INTE** försöka anpassa den. Kontakta i stället omedelbart butiken eller TV Ones närmaste försäljningsställe och be att få rätt stickkontakt.

Intellektuell egendom

Vissa IC-chip i denna produkt innehåller konfidentiellt material och/eller företagshemligheter. Du får därför inte kopiera, modifiera, anpassa, översätta eller distribuera innehållet eller använda reverse engineering, assemblering eller dekompilering på det.

VIKTIGE SIKKERHETSANVISNINGER

For at du skal få mest mulig ut av dette produktet, ber vi deg lese denne håndboken nøye.

- Les disse anvisningene.
- Ta vare på disse anvisningene.

- Vær oppmerksom på alle anvisningene.
- Følg alle anvisningene.
- Ikke bruk dette apparatet i nærheten av vann.
- Må bare rengjøres med en tørr klut.
- Ikke blokker ventilasjonsåpningene. Må installeres i overensstemmelse med produsentens anvisninger.
- Må ikke installeres i nærheten av varmekilder som radiatorer, varmeapparater, komfyrer eller andre apparater (også forsterkere) som produserer varme.
- Ikke sett sikkerhetsinnretningen til det polariserte eller jordete støpselet ut av funksjon. Et polarisert støpsel har to pinner, hvor den ene er bredere enn den andre. Et jordet støpsel har to pinner pluss en tredje jordingspinne. Den brede pinnen eller tredje pinnen er der av hensyn til sikkerheten. Hvis støpselet som følger med ikke passer i kontakten, må du kontakte en elektriker for å få skiftet ut kontakten.
- Beskytt ledningen mot å bli tråkket på eller klemt, spesielt ved støpselet, stikkontakten og punktet hvor den kommer ut av apparatet.
- Ikke bruk andre typer tilbehør enn det som er angitt av produsenten.
- Koble apparatet fra strømforsyningen i tordenvær eller når det ikke skal brukes over en lengre periode.
- Overlat all service til kvalifisert servicepersonell. Apparatet trenger service hvis det på en eller annen måte har fått en skade, for eksempel at ledningen eller støpselet er ødelagt, det er blitt sølt væske på eller gjenstander har falt inn i apparatet, apparatet har vært utsatt for regn eller fuktighet, ikke fungerer som det skal eller har falt i gulvet.

WARNING: ADVARSEL For å redusere faren for brann eller elektrisk støt, må apparatet ikke utsettes for regn eller fuktighet.

- Strømledningen (vekselstrøm) eller adapteren som følger med enheten må tilsvare den typen som brukes i landet der du bor. Sammenlign støpselet på ledningen eller adapteren med stikkontakten der hvor enheten skal installeres.

Hvis du har fått feil støpsel, må du **IKKE** forsøke å modifisere det. I stedet må du straks kontakte forhandleren eller nærmeste salgskontor for TV One og be om riktig type støpsel.

Opphavsrett

Noen av IC-brikkene i dette produktet inneholder fortrolig informasjon og/eller fabrikkhemmeligheter. Du må derfor ikke kopiere, endre, tilpasse, oversette, distribuere, rekonstruere kildekodene til eller dekompilere noe av dette innholdet.

TÄRKEITÄ TURVALLISUUSOHJEITA

Lue tämä opaskirja huolellisesti, jotta saat parhaan hyödyn tästä tuotteesta.

- Lue nämä ohjeet
- Säilytä nämä ohjeet
- Ota kaikki varoitukset huomioon
- Noudata kaikkia ohjeita
- Älä käytä tätä laitetta veden lähellä
- Puhdista vain kuivalla kankaalla
- Älä tuki ilma-aukkoja. Asenna laite valmistajan ohjeiden mukaisesti.
- Älä asenna laitetta lähelle lämpölähteitä, kuten esim. lämpöpatteria, lämmitintä, uunia tai muita lämpöä tuottavia laitteita (vahvistimet mukaan lukien).
- Älä tee tyhjäksi polarisoidun tai maadoitetun pistokkeen turvallisuustarkoitusta. Polarisoidussa pistokkeessa on kaksi kosketuspiikkiä, joista toinen on leveämpi. Maadoitetussa pistokkeessa on kaksi kosketuspiikkiä ja kolmas maattokosketin. Leveä kosketuspiikki tai kolmas maattokosketin on turvallisuusominaisuus. Jos toimitettu pistoke ei sovi pistorasiaan, pyydä sähköasentajaa asentamaan uusi pistorasia.
- Varmista, että verkkojohdon yli ei kävellä eikä se jää puristuksiin etenkin pistokeja liitinkohdista sekä laitteesta ulostulevista kohdista.
- Käytä vain valmistajan määrittämiä lisälaitteita/lisävarusteita.
- Kytke laite irti verkkovirrasta ukkosmyrskyn aikana tai silloin, kun sitä ei käytetä pitkään aikaan.
- Jätä kaikki huoltotoimenpiteet pätevän huoltohenkilöstön suoritettavaksi. Laite on toimitettava huoltoon, jos se on vahingoittunut jotenkin, kuten esim. verkkojohto tai pistoke on vioittunut, laitteeseen on joutunut nestettä tai laitteen päälle on pudonnut esineitä, laite on altistunut sateelle tai kosteudelle, laite ei toimi normaalisti tai se on pudonnut.

  WARNING: VAROITUS! Älä altista tätä laitetta sateelle tai kosteudelle tulipalon tai sähköiskun vaaran vähentämiseksi

- Laitteen mukana tulevan verkkojohdon tai sovittimen tulee olla yhdenmukainen maassa jo käytössä olevien kanssa. Tarkasta, että verkkojohdon pistoke tai sovitin sopii asennuspaikassa olevaan pistorasiaan.

Jos laitteen pistoke on väärä, **ÄLÄ** yritä muunnella sitä. Ota heti yhteys jälleenmyyjään tai lähimpään TV One -myyntikonttoriin ja pyydä oikeaa pistoketta.

Immateriaaliomaisuus

Jotkut tässä tuotteessa olevat IC-sirut sisältävät luottamuksellista ja/tai liikesalaisuusomaisuutta. Sen tähden sisältöä ei saa kopioida, muokata, kääntää, jakaa, takaisinmallintaa, mallintaa symbolisella konekielellä tai kääntää takaisin.

Introduction

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Shipping Carton

Your CORIOmatrix will arrive boxed with internal foam inserts for maximum protection during shipping. You are encouraged to retain the box and all packing material so the unit can be returned in the unlikely event that repairs should ever become necessary.

Important Safety Instructions

The AC power cable furnished with the unit should conform to the type in use in your country. Please compare the plug on your cable with the power socket where the unit will be installed.

If you did not receive the correct cable, **DO NOT** attempt to modify it. Instead, immediately contact your dealer or contact tvONE at the sales office nearest to your geographic location and request the proper cable.

Installation should be made such that the system fans are not blocked by other pieces of equipment, and such that they may not be accidentally touched by users.

Connecting the PC to the CORIOmatrix

The physical connection between PC and CORIOmatrix is the same as with previous tvONE products. The CORIOmatrix can be connected to the PC through an Ethernet network, or by a serial (RS-232) cable.

By default, a CORIOmatrix running up-to-date firmware will be set to accept a DHCP-assigned IP address. If you do not know what this IP address is, use the CORIOdiscover application to configure the unit.

If you prefer not to use Ethernet, you can connect using a serial cable and use a third-party controller. (Crestron and AMX modules are available, or use a terminal emulator.)

For more information on configuring the connection, see "Configure Connection via Ethernet" on page 37 or "Configure Connection via Serial" on page 41.

Initial Operation Check

This product can be operated via multiple methods, but this manual will address use of the device using an Ethernet connection and the CORIOmatrix web UI that is provided with the firmware. Although the unit can be controlled using an RS-232 serial connection and Crestron or AMX controllers, their use is not outlined here - to use those products, please see the documentation that is provided with that software.

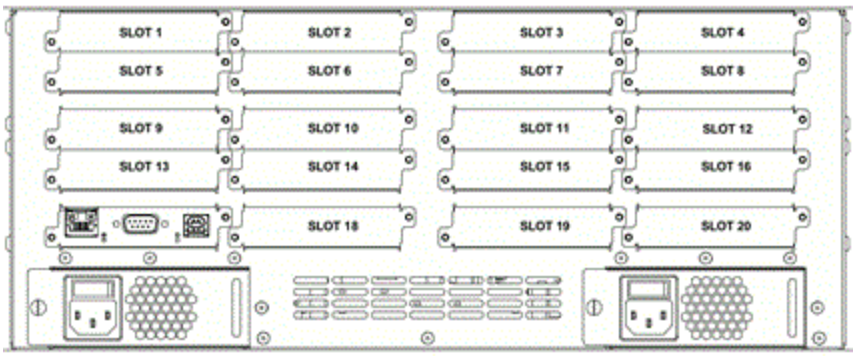
If you have problems using the unit as described in this document, see the "Troubleshooting" on page 241 section.

Connections

The rear of the CORIOmatrix has dual-link digital and analog DVI (DVI-I)[1] input and output connectors. Due to the large number of connectors that may be attached, it is important to use fully screened cables with built-in Ferrite chokes to meet the emission standards.

In the event that you want to use YC or CV analog video, a card with Universal DVI (DVI-U) ports is available from tvONE. These DVI-U ports can use adapters (available from tvONE) to attach HDMI, composite video or analog signals to the DVI-U connector.

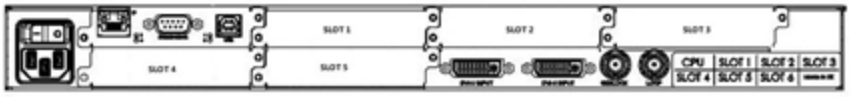
Below is a diagram of the rear of the CORIOmatrix. DVI-I or DVI-U cards can be placed in slots 1-16.



INPUT cards are painted black with white writing. They are placed in the unit from slot 1 onwards. The top row can only be inputs; remaining rows can be either inputs or outputs. Best practice is to add inputs in a left-to-right, top-to-bottom direction, while putting the first output card in slot 16 and working backwards.

OUTPUT cards are painted white with black writing. Output cards are placed after input cards; slot 5 is the first slot that will accept an output card. These outputs can do resolution conversion and can genlock to a separate input.

On a CORIOmatrix mini, there are six slots, and the sixth slot is a fixed DVI-I slot. Slots 1 through 5 can be filled with any combination of input and output cards, although it is still best practice to put inputs above and left of outputs. Below is a diagram of the rear of the CORIOmatrix mini.

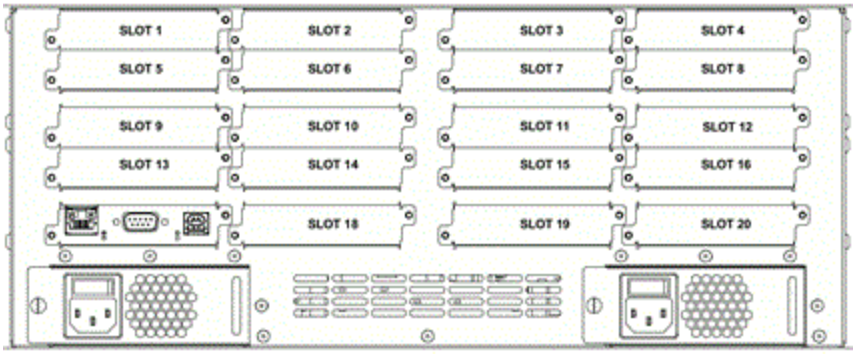


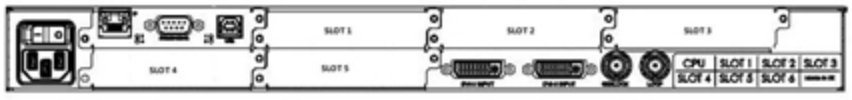
Note: Your CORIOmatrix or CORIOmatrix mini comes with various modules installed. CORIOmatrix mini modules are factory installed and cannot be replaced in the field by end users.

[1]In early 2015, CORIOmatrix and CORIOmatrix mini units were redesigned to use DVI-I cards by default. Prior to this date, DVI-U connectors were default. If your CORIOmatrix has DVI-I cards, be sure not to use a firmware build prior to M306.

Modularity

The CORIOmatrix and CORIOmatrix mini frames come as standard with a CPU module and an inbuilt DVI-I card (with two inputs) and a single Power Supply Unit.





The video modules available for these units are **DVI-I**, **Universal DVI**, **3G-SDI**, **HD-SDI** and **HDBaseT**. You can also get an audio module and a monitor card.

	Input Cards	Output Cards
DVI-I[1]	CM-DVI-I-2IN	CM-DVI-I-SC-2OUT
Universal DVI[1]	CM-DVIU-2IN	CM-DVIU-SC-2OUT
3G-SDI	CM-3GSDI-2IN	CM-3GSDI-SC-2OUT
HD-SDI	CM-HDSDI-4IN[2]	CM-3GSDI-SC-2OUT

[1]Universal DVI allows the connection of a number of different adapters for HDMI, VGA, Y/C, Composite, etc.
[2]Although other modules have two connections, the HD-SDI card allows the connection of four HD-SDI connections.

	Input Cards	Output Cards
HDBaseT	CM-HDBT-2IN-1ETH	CM-HDBT-SC-2OUT-1ETH[1]

In addition to the video cards, a monitor card is available from tvONE which enables you to see all attached inputs and outputs on a separate display. See "About Monitoring" on page 144 for more information.

[1]Default DVI card was DVI-U until early 2015, at which time default connector became DVI-I. DVI-I cards require firmware version M306 or later.

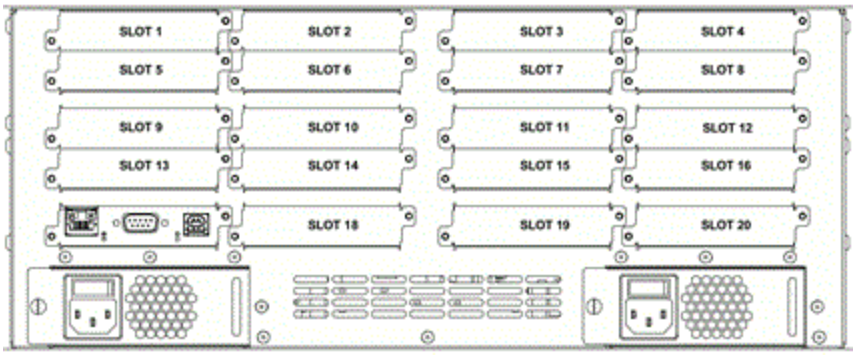
[1]The HDBaseT module allows for transmission of uncompressed, HDMI-quality video, audio and LAN up to 100m with good quality cabling. The card has two independent HDBaseT outputs and a single LAN input, supporting 100Base-T.

Input and Output Naming Convention

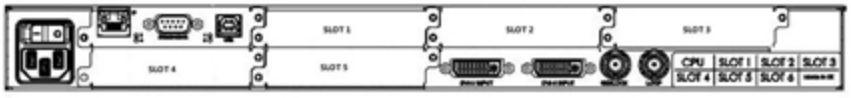
The CORIOmatrix protocol uses a fixed naming convention. You can create aliases within the control software but it is helpful to understand the default naming convention.

The naming is defined by the position of modules within the CORIOmatrix product. The figure below shows the unit as viewed from the rear. Each location in which a module can be placed is called a slot and each slot is numbered from the top left, going across then down.

The first slot is numbered 1; the last is 20. Slot 17 is a special slot holding the CPU card and slots 18,19 and 20 only work with data, not video signals.



On a CORIOmatrix mini, slots are also numbered left-to-right, but there are a total of six slots; slot six is already filled with DVI-I or DVI-U connectors (CORIOmatrix units built after early 2015 have DVI-I; earlier models use DVI-U). The CPU card is to the left of Slot 1.



The fixed label for slot 1 is Slots.slot1

The video modules have inputs and outputs. Most cards have two connectors per slot or per module that slides into the slot.

Inputs are addressed by in1 and in2; outputs are addressed by out1 and out2. HD-SDI input cards also have in3 and in4.

Like the slot numbering system, they are numbered from left to right when you are facing the rear of the CORIOmax.

The fixed label for the left-most input on slot 1 is Slots.slot1.in1

The fixed label for the left-most output on slot 13 is Slots.slot13.out1

The input numbering starts from 1 and continues to the number of inputs on that card. Likewise, the output numbering starts at 1 and continues to the number of outputs on that card. So an input card in the first slot with four connectors would be slot1.in1, slot1.in2, slot1.in3, and slot1.in4, while an output in slot 14 with two connectors would be slot14.out1 and slot14.out2, labeled from left to right.

These names may also be abbreviated to the first initial, so in the examples above, the inputs could also be s1i1, s1i2, s1i3 and s1i4 while the outputs would be s14o1 and s14o2. These are the default labels in the software unless you change them.

Slot aliases must be unique strings. If you change a slot alias to be the same as another slot (for example, rename s1i2 to be "s1i1"), after saving the name, the original slot with that name will now have a blank name field. You would then need to rename the blank-named slot to a unique alias.

Supported Browsers

The CORIOmatrix web UI has been written for and tested in certain select browsers. If you attempt to access your CORIOmatrix web UI through an unsupported browser, it may not perform as expected. Symptoms range from inability to access the UI past the login page to graphical anomalies or functional loss of features.

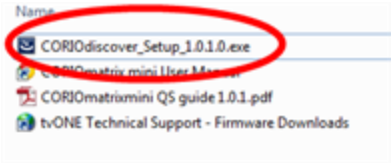
The browsers which are supported for use with the CORIOmatrix web UI are the Windows, Mac or Linux versions of:

- **Firefox** version 28 or newer
- **Chrome** version 34 or newer
- **Safari** version 6 or newer
- **Internet Explorer** version 10 or newer

Configure Connection via Ethernet

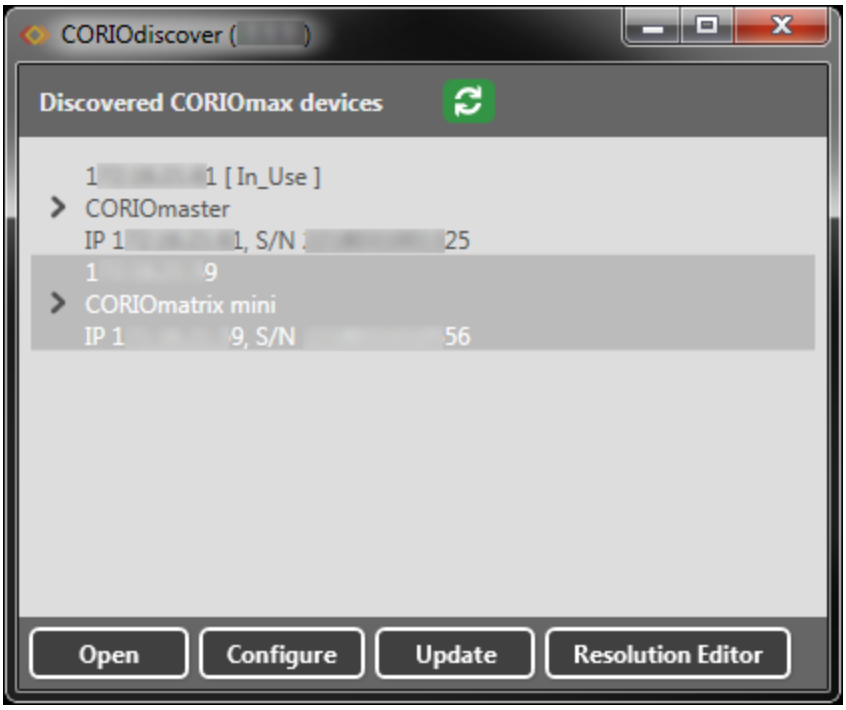
If you wish to connect to a CORIOmatrix using an Ethernet connection, the process should be simple, as any CORIOmatrix with up-to-date firmware (M300 or later) defaults to DHCP and should be discoverable on your network. tvONE recommends that you change any CORIOmatrix device in a fixed networked installation to a static IP address.

Initially, your CORIOmatrix will acquire an IP address via DHCP. Use the CORIOdiscover application provided on the USB memory stick included in the box to find and configure your CORIOmatrix.



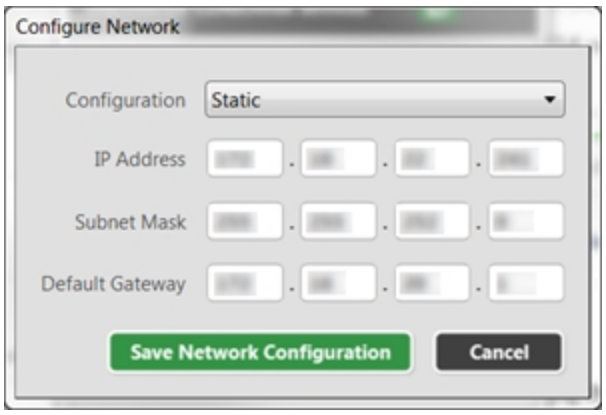
As well as installing the CORIOdiscover application, make sure your computer and the CORIOmatrix are on the same Ethernet network. If you do not want the CORIOmatrix on your network yet, you can connect the computer directly to the CORIOmatrix via Ethernet and configure it with this direct IP connection.

1. Once the CORIOmatrix and your PC are on the same network or directly connected, open the CORIOdiscover application which automatically scans for any CORIO devices. The application automatically refreshes data every few seconds and any changes will appear within ten seconds. If you wish to re-scan on demand, click the green refresh button at the top right.



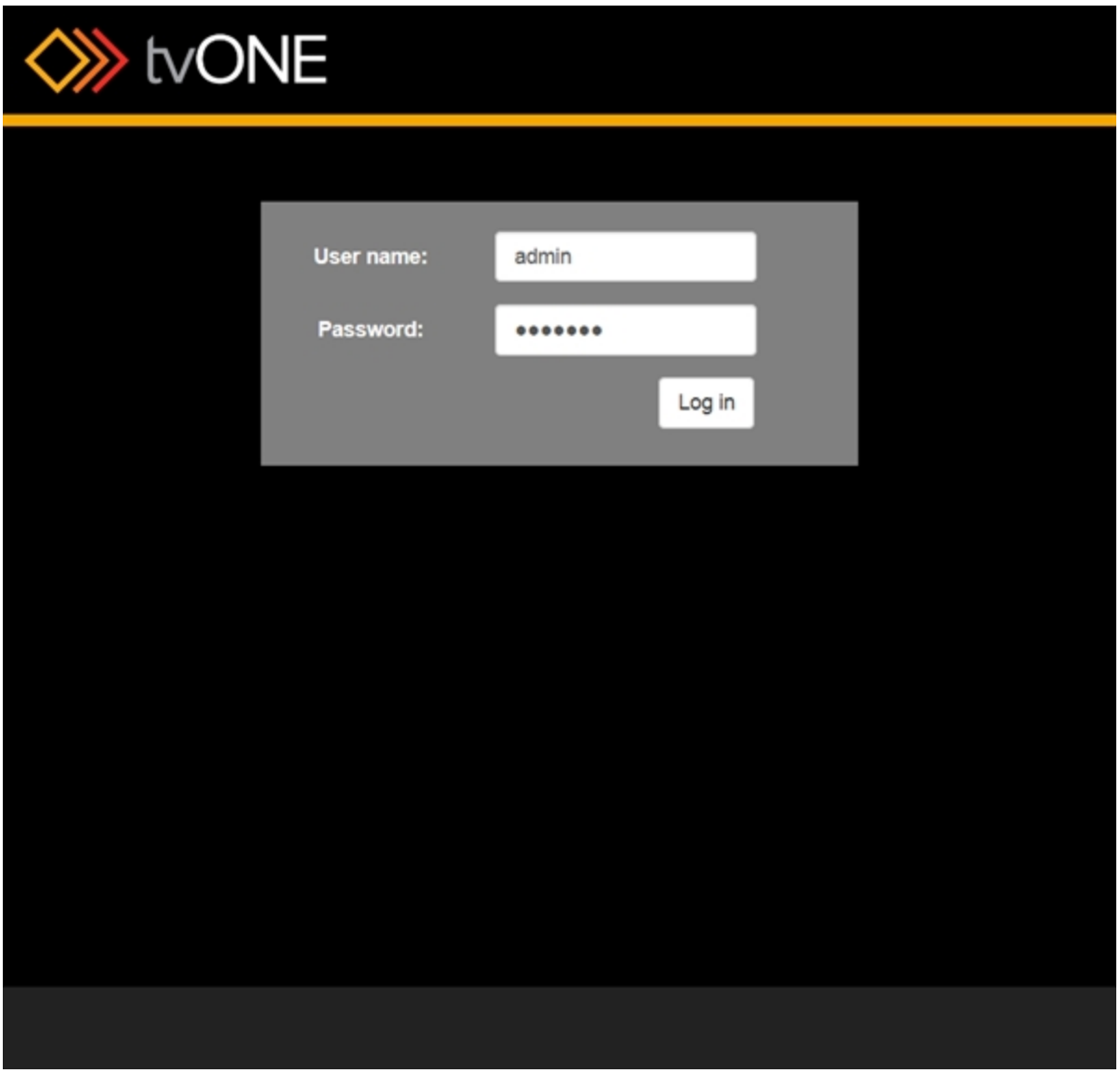
2. If you have multiple devices on the network, identify the specific CORIOmatrix you wish to configure by verifying the serial number in the application (the serial number is located on a sticker underneath the unit).
3. Click the corresponding line to highlight the CORIOmatrix and click the Configure button.
4. In the resulting pop-up window, you can change the configuration to Static and enter the appropriate network settings for the CORIOmatrix as determined by your systems admin-

istrator.



5. Click the Save Network Configuration button to commit your changes and restart the unit. The window closes, and CORIOdiscover scans the network again, allowing you to confirm the network settings on the unit. While the unit is restarting, it appears as "Offline" in the device. Once the reboot is completed, you can select the appropriate line.
6. Select the unit in CORIOdiscover and click the Open button to open the device in your default web browser[1]. Alternatively, in the web browser of your choice, type the IP address of the CORIOmatrix into the address bar and press return.

7. The CORIOmatrix serves a web interface, beginning with a login page.



8. Type the appropriate username and password into the fields (default username is `admin` and password is `adminpw`) and click Log in.

[1]For a list of supported browsers, see "Supported Browsers" on page 36

Configure Connection via Serial

By default, any new CORIOmatrix defaults to a DHCP network connection. If you wish to connect to a CORIOmatrix using a serial (RS-232) connection, you need to use a third-party controller such as those provided by Crestron or AMX. These third-party products use a series of API commands to control the unit, or you can use a HyperTerminal application; if you want to control the unit manually, you can download a manual of API commands from the tvONE website.

If you wish to simply connect to the CORIOmatrix in order to configure network settings, follow these steps:

1. Connect your control computer directly to the CORIOmatrix using a serial (RS-232) cable.
2. Using a HyperTerminal application, connect to the CORIOmatrix (instructions will vary depending on software used). Once connected, you can use the command line to log in and configure network settings as needed:
3. Once the CORIOmatrix is responding, type `login(admin, adminpw)` and press Return to connect and authenticate. The response, if successful, is `!Info : User admin Logged In`.
4. There are two potential IP address settings - the static IP settings and the DHCP settings. If you want to configure a static IP, you need to disable DHCP as those settings will override static IP settings. Type `System.Comms.Ethernet.DHCP.Enabled = Off` to disable DHCP. The system will echo the command if it was succesful.
5. Configure your static IP and other network settings by using the following commands, using the Return key after each command:
    - `System.Comms.Ethernet.IP_Address =` <enter your static IP address>
    - `System.Comms.Ethernet.IP_Subnet_Mask =` <enter subnet mask>
    - `System.Comms.Ethernet.IP_Gateway =` <enter gateway address>
6. Type `System.Comms.Ethernet` and press Return; this command will return all Ethernet settings and you can verify the addresses you just input.
7. When you have the settings as desired, type `System.SaveAllSettings()` (including the open and close parentheses at the end) and press Return to save your changes to the CORIOmatrix memory.
8. In order to make the network settings active, restart the CORIOmatrix. The easiest way to do this via the command line is to type `System.Reset()` and press Return. You are disconnected from the unit while it restarts, but after it restarts you can access it via the static IP you configured.

Getting Started

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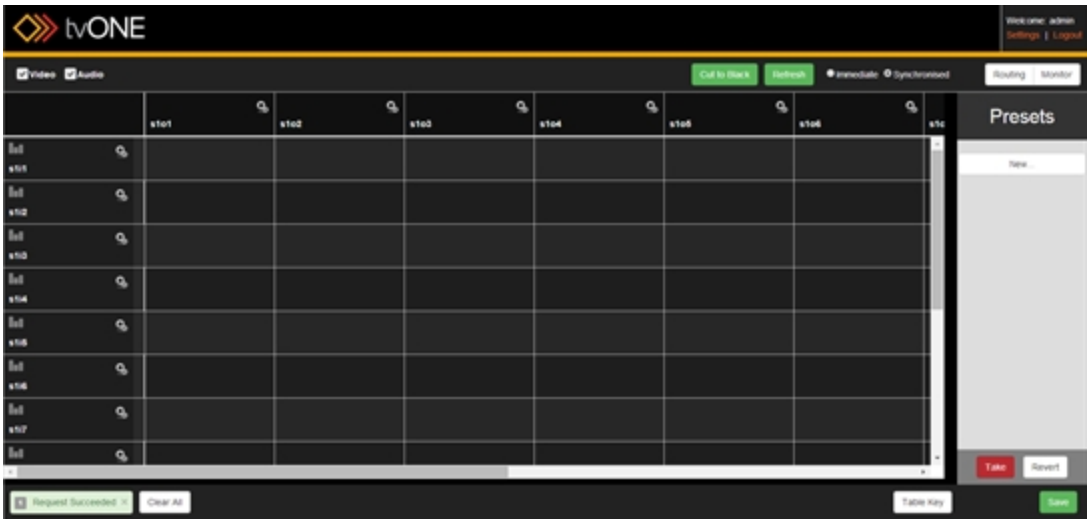
Configuring Inputs and Outputs

When you begin to use the Routing Page, the software will automatically retrieve information on the cards that are installed in your unit. Inputs appear vertically down the left side of the page; outputs appear horizontally across the top of the page.

When you have logged in to the CORIOmatrix web interface, the first screen you see is the routing table. This is the default, with Video and Audio both selected. Upon loading, the software automatically retrieves information on the cards that are installed in your unit. Inputs appear vertically down the left side of the page; outputs appear horizontally across the top of the page.



You can configure Input settings by clicking the gear icon next to the input's alias. In the right-hand pane, Input Settings appears and allows you to modify the alias (the name which appears in the Routing table) or view the full name and status. From this pane, you can also click the Configure button to access more settings for a video input card; no additional settings are available for audio input cards. See "Configuring Input Settings" on page 76 for more information.

Routing
Monitor
Settings
Input Settings
FullName:
Slot2.In2
Alias:
s2i2
Status:
INVALID
Done
Configure
Save

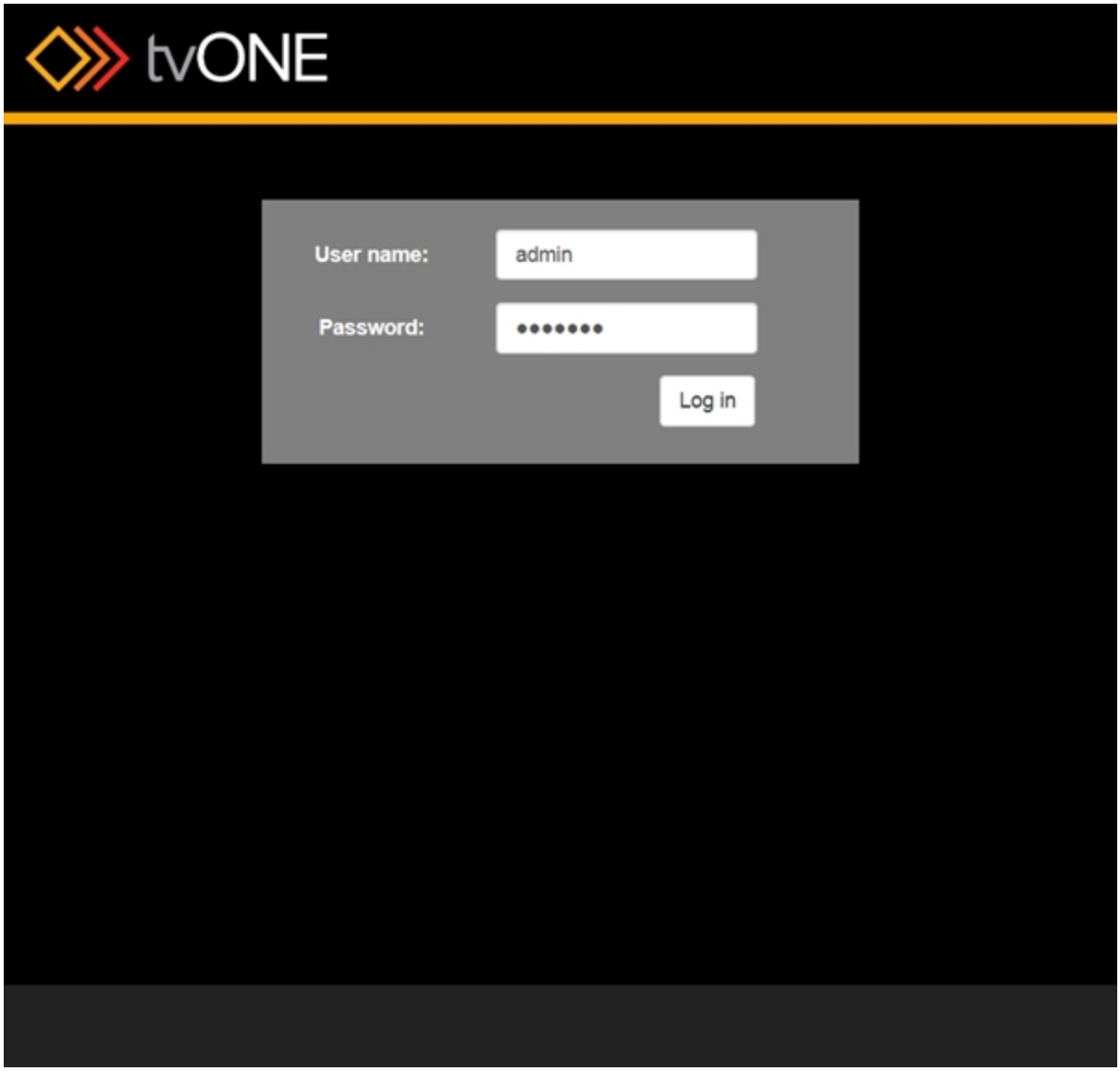
Routing
Monitor
Settings
Audio Card Settings
FullName:
Slot5.In1
Alias:
s5i1
Status:
Done
Save

Log In

Assuming you have already configured the CORIOmatrix, these instructions tell you how to log in to the web interface on the unit. If you still need to configure the CORIOmatrix for your network, see "Configure Connection via Ethernet" on page 37.

1. Select the unit in CORIOdiscover and click the Open button to open the device in your default web browser. Alternatively, in the web browser of your choice, type the IP address of the CORIOmatrix into the address bar and press return.

2. The CORIOmatrix serves a web interface, beginning with a login page.

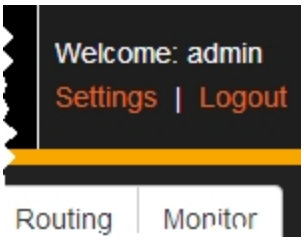


3. Type the appropriate username and password into the fields (default username is `admin` and password is `adminpw`) and click Log in.

Log Out

When you have finished configuring or using the CORIOmatrix, tvONE recommends that you log out of your session and close the browser window, for security reasons.

To log out of the CORIOmatrix web interface, click the **Logout** button in the top right corner of the Routing Page:



Restoring Previous Settings

If you have a CORIOmatrix that has been running previous versions of tvONE software and you are now upgrading the firmware on the unit to use the web interface, you are likely to want to retain your settings. If this is the case, be sure to follow these steps to transfer your configuration data to the new UI.

Backing Up Settings

To back up your existing settings to internal memory:

1. Connect via RS-232 or Ethernet using the control interface or a HyperTerminal-type program.
2. In the command line, once you are logged in, type **`System.BackupToSDCard()`**
   The unit returns `!Done system.BackupToSDCard` which indicates the command has been accepted but not yet completed. The system then displays feedback showing data backing up to the internal memory.
   When the backup is complete, the display shows `Backup: Complete`.

Updating Firmware

The CORIOmax family has been designed to update both software and firmware easily, to enable new facilities to be easily incorporated into units in the field. After powering up the unit and logging in using the RS-232 port, the new firmware is uploaded from a PC connected via the unit's rear USB connector, as follows:

Connecting a PC to the CORIOmatrix and Transferring Files

3. Connect a PC to the CORIOmatrix via the unit's rear USB port. The PC locates an external drive called `TVONE`, which is the internal SD card on the CORIOmatrix.
4. In order to update the firmware, you need to drop two files into the root directory of this drive.
   a. The first file is a `PLSBOOT` file which is a 12-character long file that defines which of the firmware files to load (the `PLSBOOT` file can also be directly edited on the drive if necessary.)
   b. The second is the firmware file, which contains all the sub-files required to load the system. There can be any number of firmware files in the directory; the `PLSBOOT` file will tell the system which to use during startup. The name of the firmware file varies depending on the model of the unit and the version of firmware. (`Mxxx` refers to the version number.)

Model of unit	Firmware file
CORIOmatrix	`Mxxx_yyS.dat`
CORIOmatrix mini	`Mxxx_yyR.dat`
CORIOmaster	`Mxxx_yyM.dat`

CORIOmaster mini	Mxxx_yyL.dat

5. Be sure you have copied the new firmware file and PLSBOOT file into the root directory of the TVONE drive.

Running the Firmware Update

6. After transferring the new firmware and PLSBOOT files, eject the TVONE drive, disconnect the USB cable and return to the RS-232 control.
7. From the command line, type, **Coriomax.Software_Update()**
   The reply shows that the PLSBOOT file has been found and that it is loading the Mxxx_yyZ.dat file. The process checks the file for integrity and starts erasing the flash files, deleting and replacing the contents. When the process is complete, a message appears stating Update successful followed by an automatic system reboot.
   If the update fails at any stage, a command prompt appears: TVONE>
   If this happens, start the update process again at step 3 above.

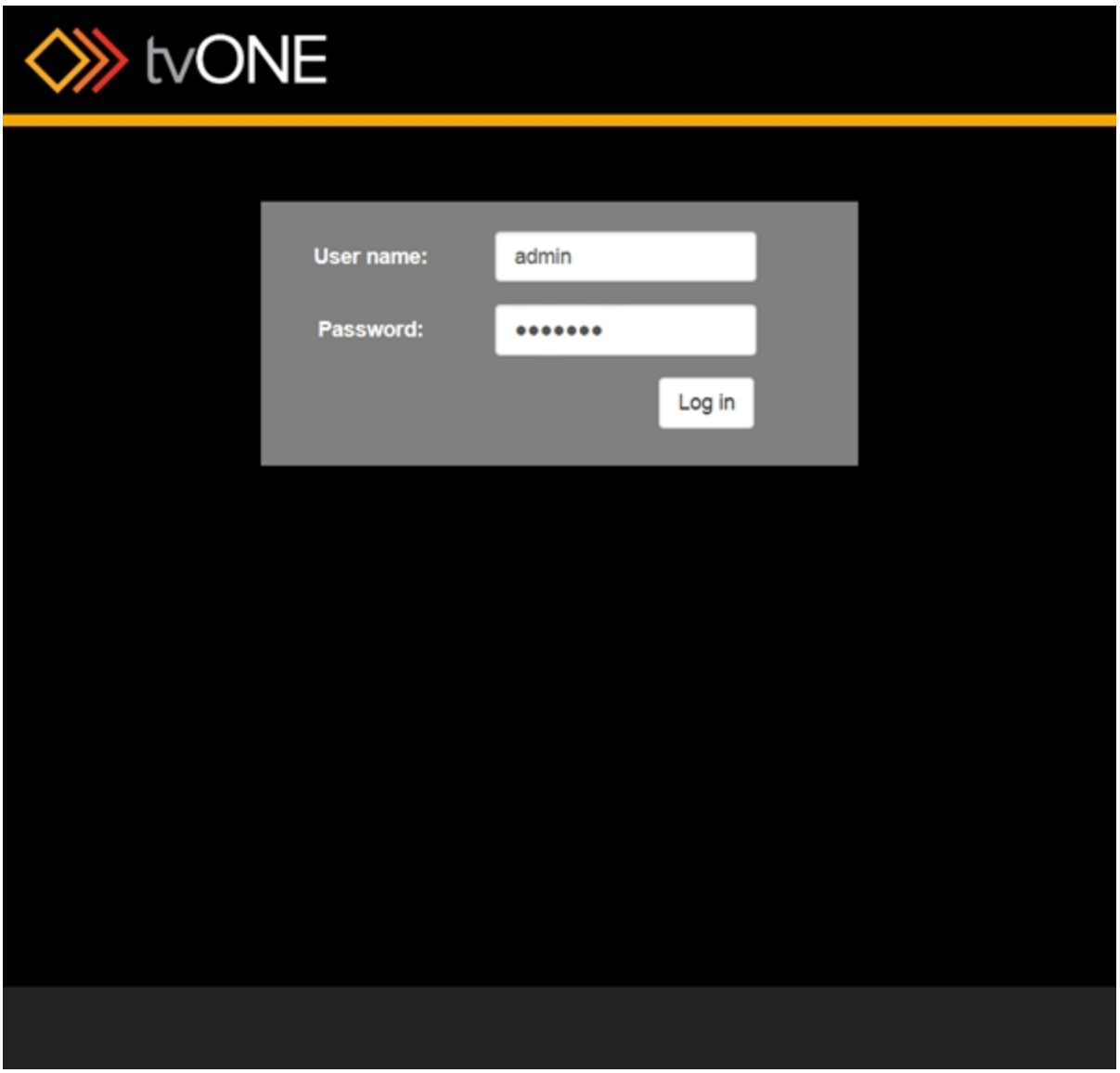
Restoring Backed-Up Settings

Once you have installed the new firmware that includes the CORIOmatrix web controls, you can restore your settings from backed-up memory:

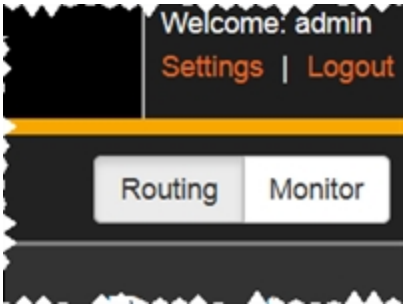
8. Use the CORIOdiscover app to find your unit on the network, and open it in a web browser.

CORIOdiscover (
Discovered CORIOmax devices
1 1 [In_Use]
CORIOmaster
IP 1 1, S/N 25
1 9
CORIOmatrix mini
IP 1 9, S/N 56
Open
Configure
Update
Resolution Editor

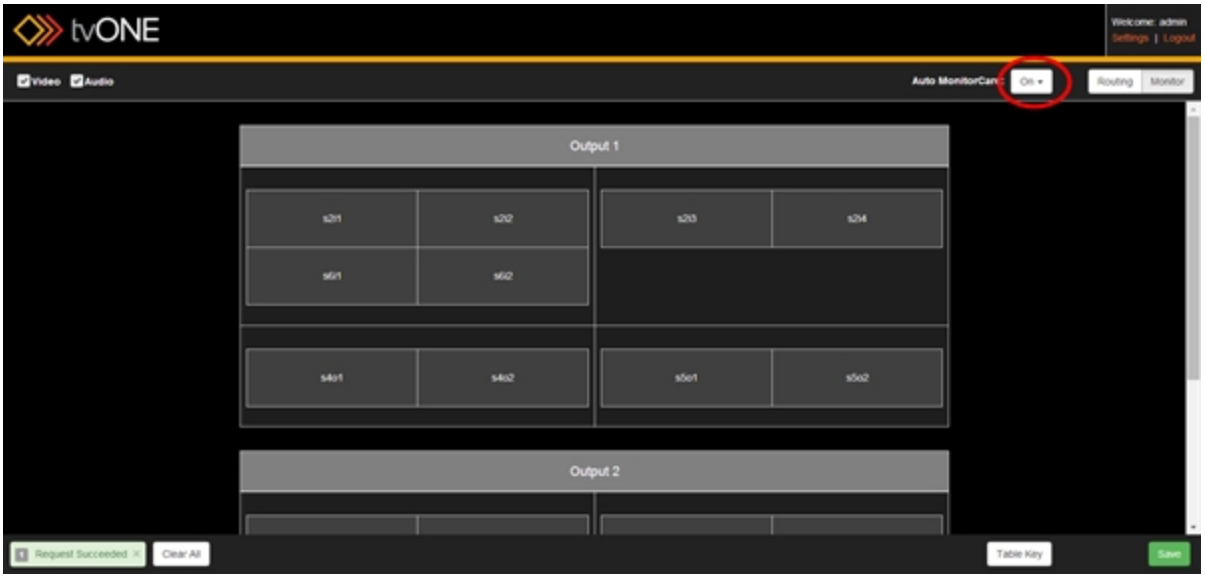
9. Log in as described in "Log In" on page 46.



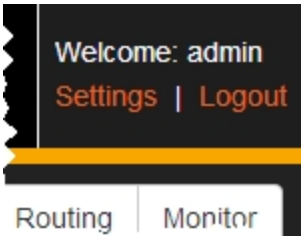
10. If you have a Monitor card in your CORIOmatrix and have already configured monitor settings you wish to restore, click on the **Monitor** button in the top right corner



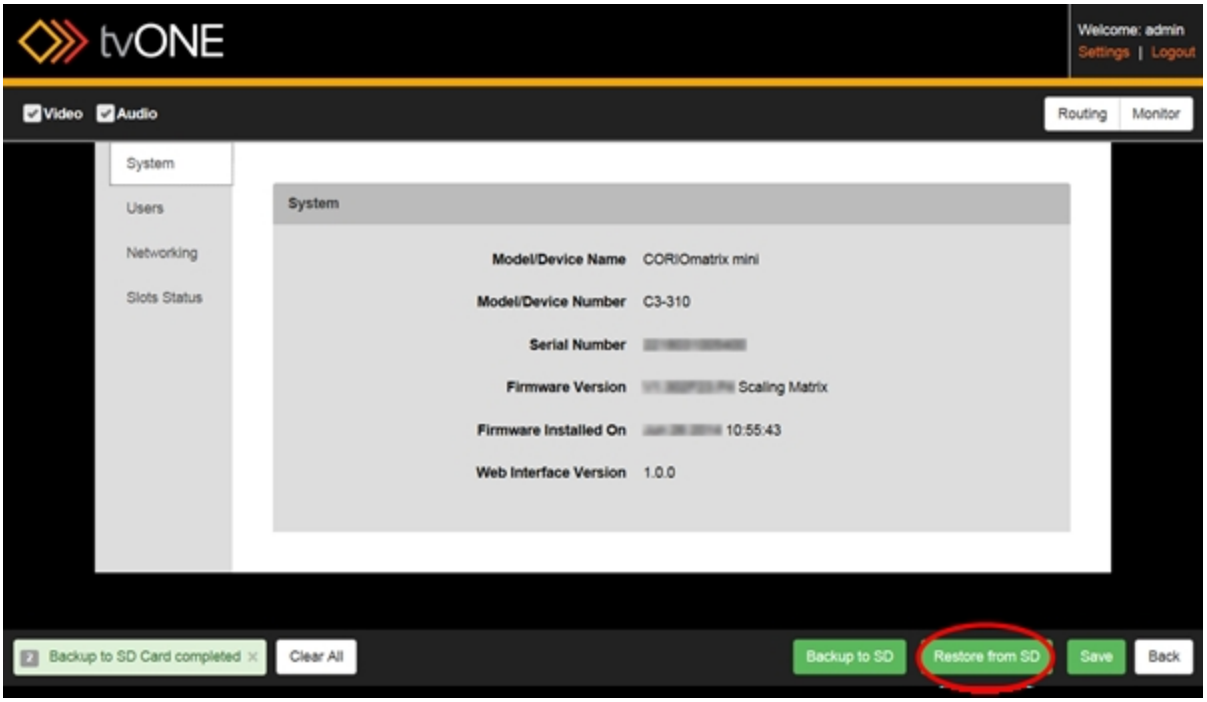
and change the **Auto MonitorCard:** settings to **Off**. If you do not have a Monitor card, the Monitor button does not appear on your system, so disregard this step.



11. Click the **Settings** button in the top right corner.



12. At the bottom of the Settings page, click the **Restore from SD card** button, and follow the steps described in "Restore from SD Card" on page 66.



Settings

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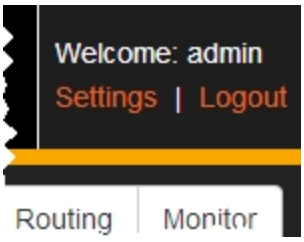
Settings

To access the settings of your CORIOmatrix, log in as the administrator and click the Settings button in the top right corner of the Routing Page.

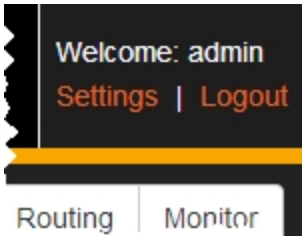


From the Settings area, you can access **information** about your CORIOmatrix, **change passwords**, **configure networking**, **review or adjust slot configurations**, **back up to an onboard SD card**, or **restore from the onboard SD card**.

System

From the Settings window, you can make various changes to the CORIOmatrix, and you can find information about the unit.

1. While connected to a CORIOmatrix as the administrator, click the Settings button in the top right corner.



2. Choose the System option in the left sidebar.

In the right-hand pane, you see various information including the device name, model number, serial number, firmware version, and the date the firmware was installed. None of this information is editable but it is provided for informational purposes.

3. If you wish to exit Settings, click the Back button in the bottom right to return to the Routing Page.

Users

The CORIOmatrix web UI has two user roles, in order to streamline privileges.

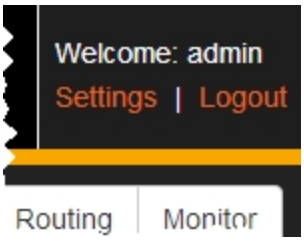
Admin, the administrator, can do everything including changing routing settings, saving Presets, and resetting passwords for other users.

Users can switch between Presets and change the password for that user.

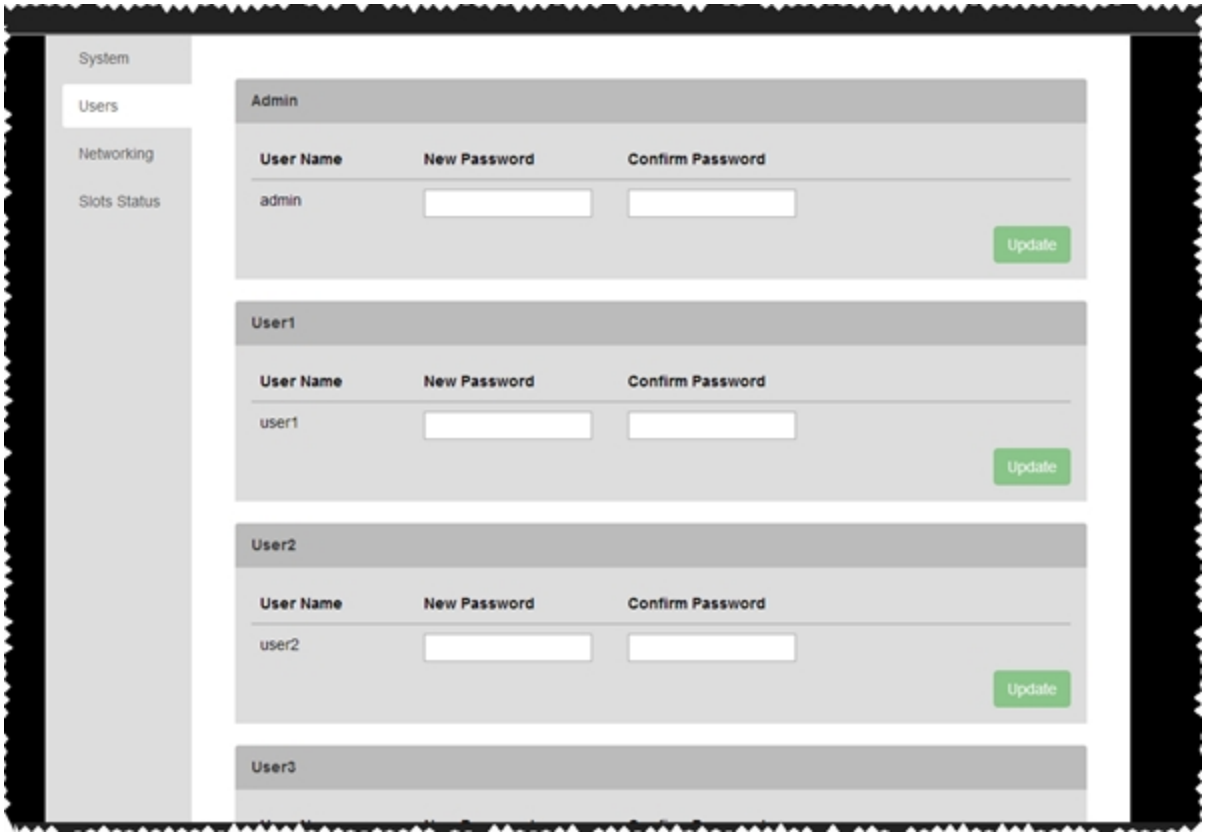
When a user creates a password, the password is stored securely on the device, and is not displayed during transmission over the API. Only the administrator can reset another user's password.

To change passwords, follow these steps:

1. While connected to a CORIOmatrix as the administrator, click the Settings button in the top right corner.



2. Choose the Users option in the left sidebar.



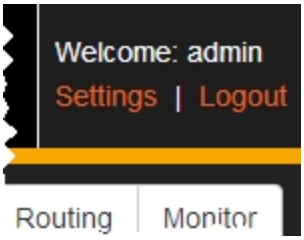
In the right-hand pane, note sections for each user - the Admin and Users 1-4. User names are not modifiable but you can change the password for any user by entering the new password twice and clicking the Update button to the right of the text fields. If the Update button doesn't become available, the text in the two password fields does not match.

3. Check the notifications in the bottom left corner of the screen to make sure the password change was successful. If it was unsuccessful, the notification box will change from green to red.
4. If you wish to exit Settings, click the Back button at the bottom right to return to the Routing Page.

Networking

From the Settings window, you can make various changes to the CORIOmatrix, including adjusting the network settings.

1. While connected to a CORIOmatrix as the administrator, click the Settings button in the top right corner.



2. Choose the Networking option in the left sidebar.

In the right-hand pane, you see various options that allow you to choose a static or dynamic IP address as well as configure subnet mask and gateway details.

3. On the top line, Configuration, choose from the drop-down whether you will be using a Static IP address or if the address will be configured by DHCP. (If you choose DHCP, neither IP Address nor Subnet Mask will be configurable.)
4. If you chose Static:
    1. In the second field, enter the appropriate IP Address.
    2. In the third field, enter the appropriate Default Gateway .
    3. In the fourth field, enter the appropriate Subnet Mask.
5. Click the Update button to save this information.

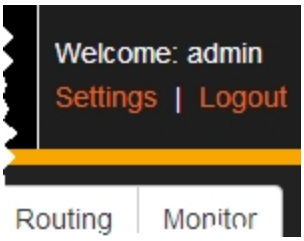
6. An authentication window may require you to re-confirm the admin user credentials to verify the change. Enter the administrator username and password and click Log In.
7. If you wish to exit Settings, click the Back button in the bottom right to return to the Routing Page.

For assistance with configuring network settings on first boot, see "Configure Connection via Ethernet" on page 37 and "Configure Connection via Serial" on page 41.

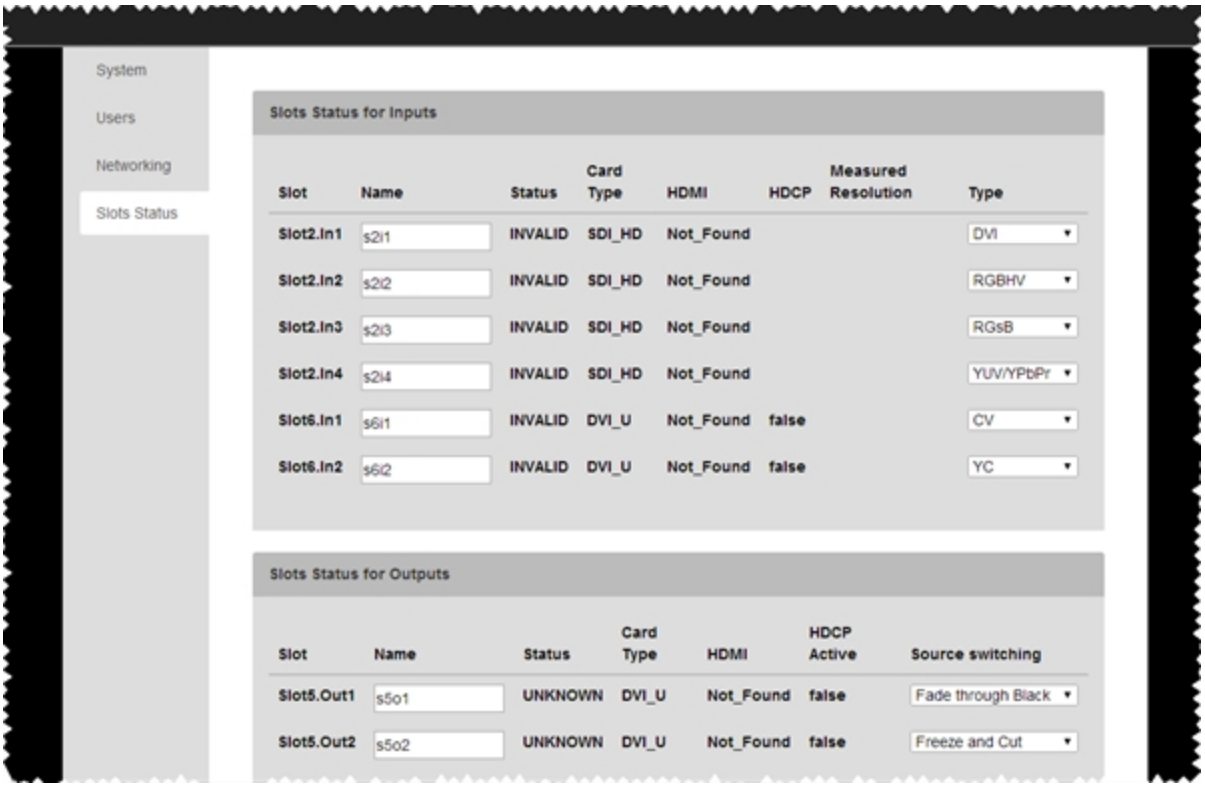
Slots Status

From the Settings window, you can make various changes to the CORIOmatrix, and you can modify settings for the input and output slots. Be aware that any change you make is saved as soon as you exit the field, so there is no need to save changes once you finish making modifications.

1. While connected to a CORIOmatrix as the administrator, click the Settings button in the top right corner.



2. Choose the Slots Status option in the left sidebar.



In the right-hand pane, you see various information about the inputs, another section for

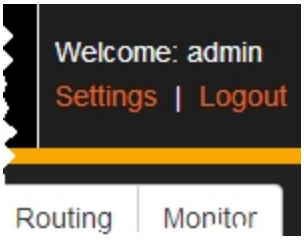
outputs, a third section for audio inputs, and a fourth section for audio outputs. Editable fields are identified by text boxes or drop-down menus.

3. Specify the name for any inputs or outputs you wish to modify. These names can be up to 19 characters, must start with a letter, and contain letters, numbers, or the underscore "_" symbol.
   For inputs, you can specify the video type by selecting from the drop-down list. Choices are DVI, RGBHV, RGsB, YUV/YPbPr, CV or YC.
   For outputs, you can specify the way to handle source switching. Choices are Fade through Black or Freeze and Cut.
4. If you wish to exit Settings, click the Back button in the bottom right to return to the Routing Page. Remember that changes are committed as soon as you exit the field or select the drop-down, so there is no need to save changes before leaving the page.

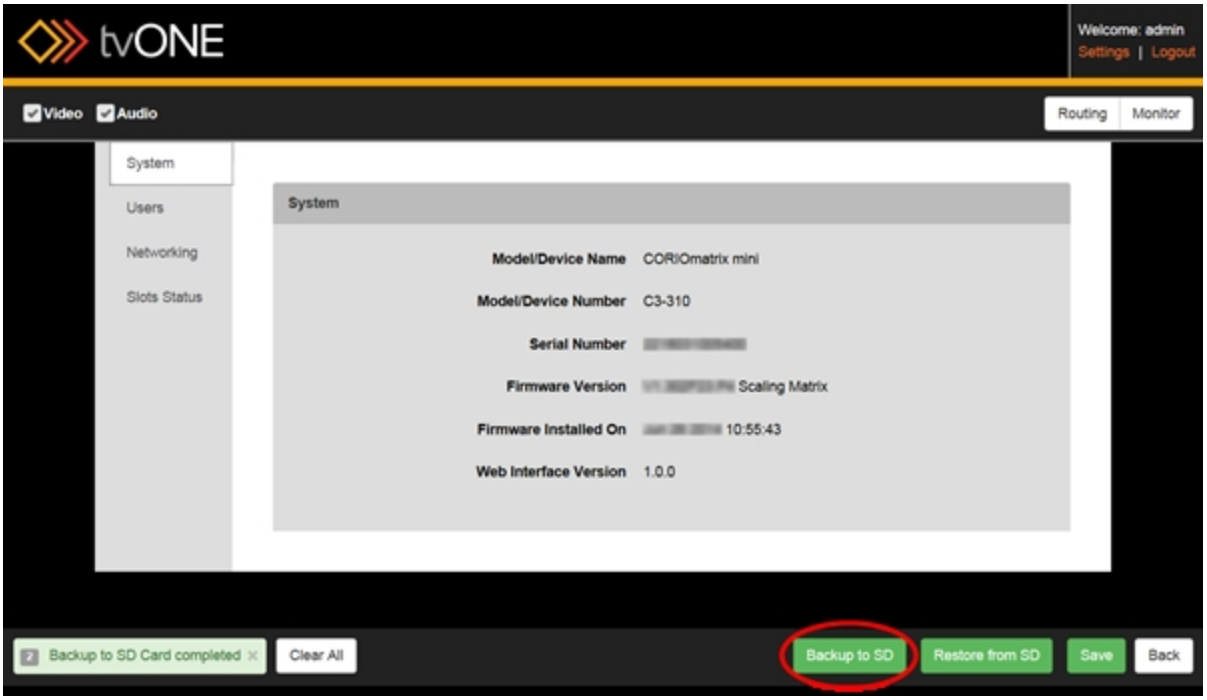
Backup to SD Card

From the Settings window, you can back all of your current configuration up to the internal SD card within the CORIOmatrix. If you wish to do this:

1. While connected to a CORIOmatrix as the administrator, click the Settings button in the top right corner.



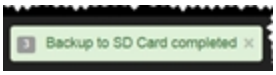
2. At the bottom of the window, you can see various buttons, including **Backup to SD**.



If you have made any changes, be sure to click the **Save** button before backing up, to ensure that the backup includes the most current modifications.

3. Click the **Backup to SD** button. A progress bar appears, asking you to please wait.

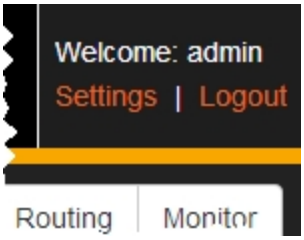
4. When the backup is finished, the progress bar disappears and the notification area informs you that the backup was successful:



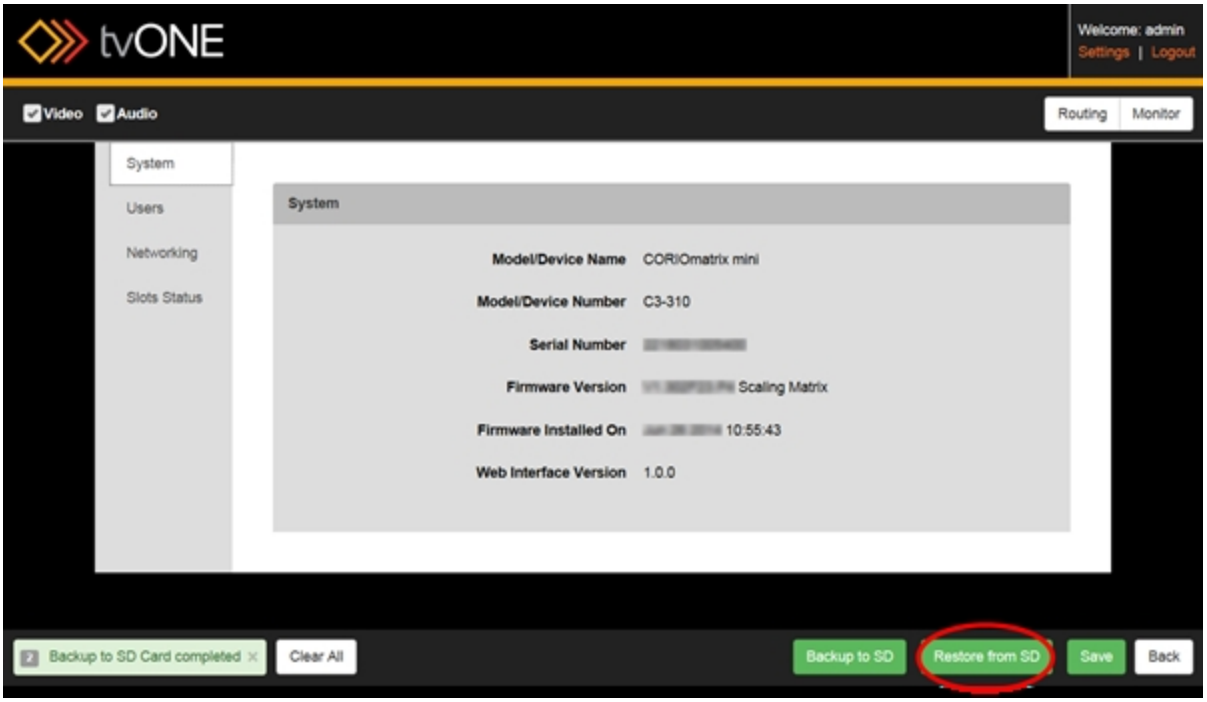
Restore from SD Card

From the Settings window, you can restore your saved configuration that has been previously saved on the internal SD card within the CORIOmatrix. If you wish to do this:

1. While connected to a CORIOmatrix as the administrator, click the Settings button in the top right corner.



2. At the bottom of the window, you can see various buttons, including **Restore from SD**.



3. Click the **Restore from SD** button. A confirmation window appears, asking you to verify your choice.

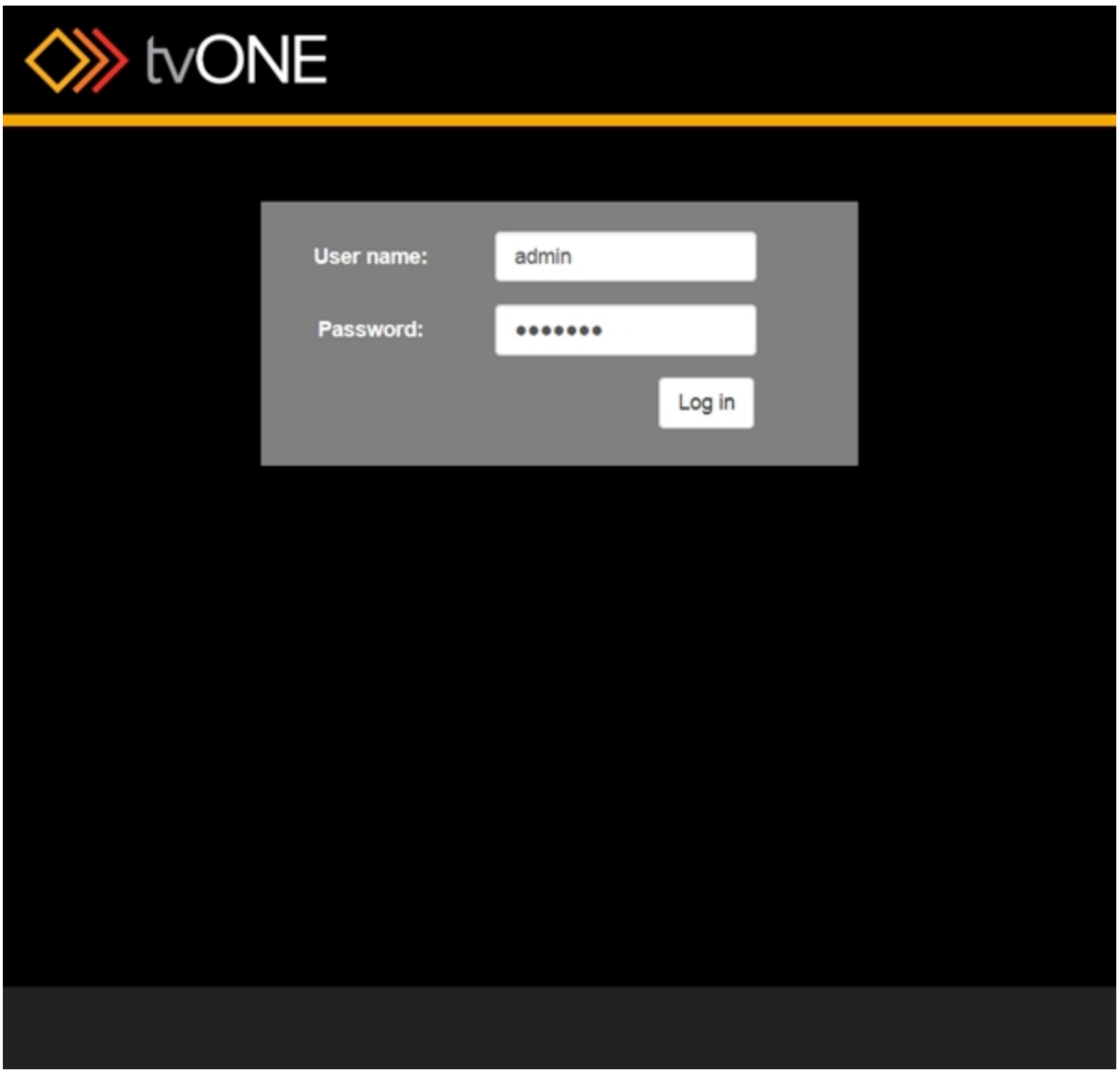
Caution: If you choose to restore from the SD card, you will delete the active configuration.

4. If you are sure you want to restore the settings, click the **OK** button. A series of two progress bars appear. The first says "Please wait" while settings copy from the SD card:

The second progress bar indicates that the CORIOmatrix is restarting with the restored settings:

5. When the CORIOmatrix has completed rebooting and the web interface is available again, your browser window will return to the login page of the web interface. Log in and

proceed with the restored settings.



If you have any issues following these steps while using Chrome, Firefox or Safari, please see "Troubleshooting - Doesn't Reconnect After Restore" on page 244.

Routing

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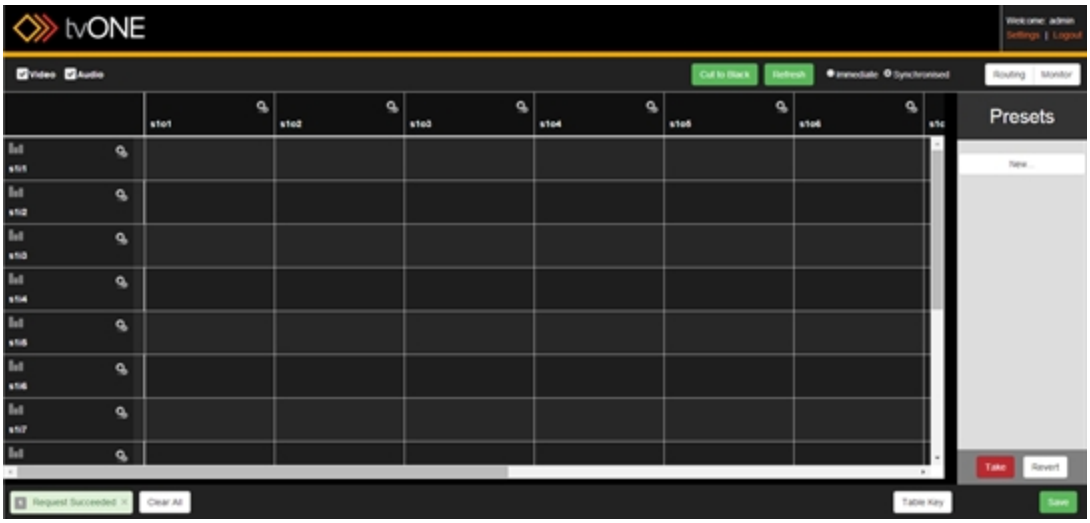
Routing Overview

The Routing page is the first page you see after you log in. This is the main page of the web interface, from which you access all other pages.



The first time you log in to your CORIOmatrix as an administrator, the page will look like the screenshot above - input and output aliases set to default, no routing information, no presets defined, and the interface defaulting to Synchronised.

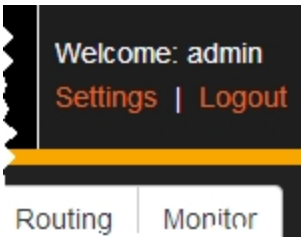
The main part of the page is a table showing inputs listed vertically on the left and outputs listed horizontally across the top.

To configure routing, find the cell that is the intersection of the desired input and the desired output, and select that cell. More details are available in "Setting routing options" on page 75.

The interface is also made up of several other components, outlined here:

- The "Welcome corner" on the next page in the top right corner shows which user you are logged in as, and allows you to log out or access settings.
- The "Notification box" on page 73 in the bottom left corner indicates what responses have been received from the unit.
- The "Presets pane" on page 74 at the right shows presets by default but can also be an input/output configuration pane.

Welcome corner

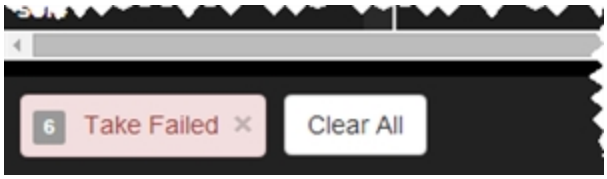


In the top right corner of the Routing page are the words "Welcome: admin" if you are logged in as the administrator. If you log in as a user, the username is shown in the top right corner, and some of the options available to administrators such as settings, defining presets, and monitor card access are not available when you are logged in as a user. The rest of this document will generally assume that you are logged in as the administrator; if you are logged in as a user and do not see a feature described in this documentation, it may not be available to a non-administrator. Log out and log back in as the admin user in order to take advantage of all features.

Below the greeting are two links, for **Settings** and **Logout**. Click the **"Settings" on page 56** button to see and edit various configurable options. Click **Logout** if you wish to exit the CORIOmatrix Web Interface.

Notification box

A notification in the bottom left corner of the Routing page reads "Request Succeeded" when you first log in, to indicate that your login was successful. This notification area is green when commands sent to the CORIOmatrix have been successful.



If a command has failed, the notification area turns red and gives a brief textual indicator of the issue. This can be the result of a variety of symptoms but the most common issue to check is that the CORIOmatrix is still on and connected to the network. If the connection to the CORIOmatrix is broken, you may still seem to be connected to the web interface, but no commands are reaching the unit. If the unit is no longer connected, an error message is returned within 60 seconds of the unsuccessful command being sent.

The number on the far left of this area, in a gray box, shows how many messages are queued. Click the gray **X** on the right side of the notification box to dismiss a single message and see the previous message, or click the **Clear All** button to dismiss all messages. If you have dismissed all notifications, this area of the window will remain blank until the next request is made that generates a success or failure notification from the CORIOmatrix. For more information on the commands being sent between the web interface and the CORIOmatrix, see the API documentation available from the tvONE **website**.

Presets pane

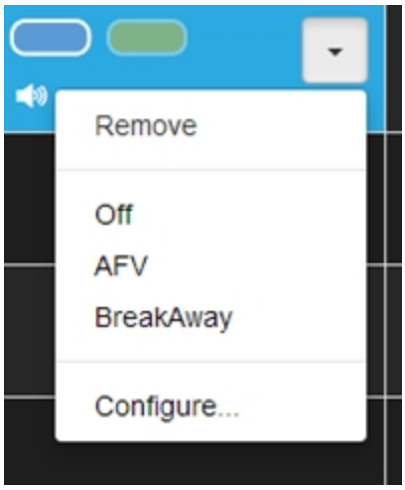
The far right of the Routing page screen contains a contextual pane. If nothing else has been selected, it shows the Presets. You can add, edit, or delete presets from this pane. (See "About Presets" on page 132 for more information.) If you select an input or output to configure, this pane becomes a settings pane for that input or output.

Setting routing options

The main part of the Routing page is a table showing inputs listed vertically on the left and outputs listed horizontally across the top. A checkbox above the table allows you to select only video, only audio, or both. For the purposes of this manual, we generally use a table showing both video and audio options.

To configure routing, find the cell that is the intersection of the desired input and the desired output, and select that cell. The options available depend on what sort of input and output are detected/configured.

If video is an option for the given cards, clicking into a cell sets the video routing for that input to that output. (That cell of the table shows a blue lozenge to indicate the pairing.) A drop-down menu in the cell allows you to choose audio configuration options from **Off**, **AFV** (audio follow video), **BreakAway**, or **Configure...**. The top option, **Remove**, can be used if you want to delete the configurations that have been made in that cell.



AFV or Audio Follow Video indicates that the audio routing is defined at the input. This often means that the audio comes from that source, but it can mean that any time that video source is selected, the audio is defined as coming from another input. AFV audio sources are the default embedded source or any audio input, embedded or external AES. AFV audio channels are configured in the Input Settings or from the **Configure...** menu option in the cell's drop-down menu.. See "Routing Audio with Input (AFV)" on page 123 for more information.

BreakAway indicates that the audio routing is defined at the output. By default, breakaway audio uses the same source for video and audio input, but it can mean that anytime that output is selected, the audio is configured to come from a different source. BreakAway audio channels are configured from the **Configure...** menu option in the cell's drop-down menu. See "Routing Audio with Output (BreakAway)" on page 128 for more information.

Configuring Input Settings

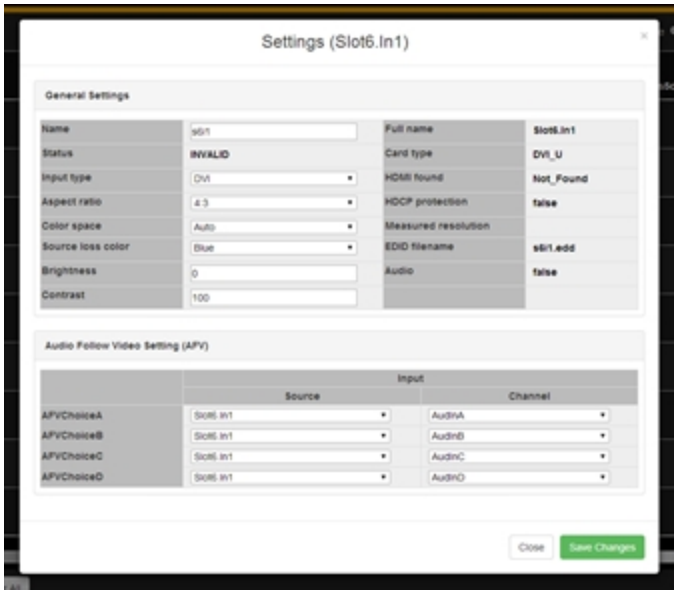
The CORIOmatrix web interface automatically populates with some data about your input and output cards. There are some aspects that you can configure in addition to the default information. To do this:

1. Click on the gear icon next to the input you wish to configure.

2. The right-hand pane shows some information about that input, including the full name, the alias, and the status of the slot:

From this pane, you can change the alias, if you wish to rename the slot to something more memorable, such as "BluRay". The alias must begin with a letter and contain only letters, numbers, and underscores (no spaces), maximum 19 characters. If this is all you wish to modify, press the **Done** button and return to the Routing page.

3. If you wish to configure more than simply the alias, click the **Configure** button in the bottom right hand corner of the settings pane. A new window pops up:



4. From this window, you can again adjust the **alias**, as above; you can set the **aspect ratio**, adjust the **color space**, define the **source loss color**, and define **brightness** and **contrast** for the slot. This window also tells you details about the slot such as **name**, detected **card type**, **HDMI** status and **HDCP protection**, **measured resolution**, the **EDID filename** and whether **audio** is detected. Some of these items are only available on DVI cards; the input settings for SDI cards will have blank fields for inapplicable options such as EDID filename, HDMI and HDCP.
   In addition, you can configure the AFV (Audio Follow Video) in this section. From here, you can define the AFV settings for this input on a per-channel basis, both slot and channel.
5. When you have finished configuring the input to your requirements, click the **Save changes** button and the window closes, returning you to the Routing table.

Configuring Input Alias

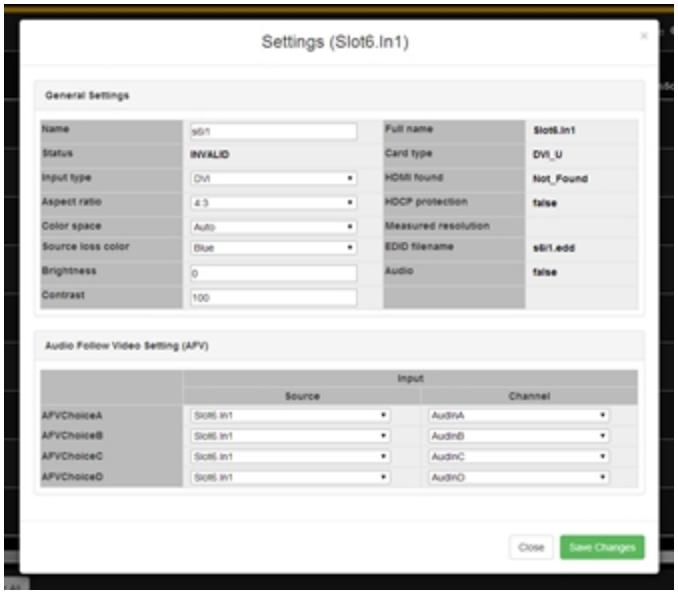
The CORIOmatrix web interface automatically populates with some data about your input and output cards. There are some aspects that you can configure in addition to the default information. There are two ways to configure the alias of the input:

1. Click on the gear icon next to the input you wish to configure.

2. The right-hand pane shows some information about that input, including the full name, the alias, and the status of the slot. If you only wish to change the alias of the input, you can type it into the text field here - the name must begin with a letter and be a maximum of 19 alphanumeric characters (no spaces, but an underscore "_" is fine):

If that is all you wish to change, be sure to click the **Done** button to commit the change and the **Save** button to save changes.

3. If you wish to modify more than just the alias, click the **Configure** button in the bottom right hand corner of the settings pane. A new window pops up:



4. From this window, **Name** (same as **Alias**) is in the left column, at the top.You can type into this text field to set an alias, just as above.
5. When you have finished configuring the input to your requirements, click the **Save changes** button and the window closes, returning you to the Routing table.

Configuring Input Aspect Ratio

The CORIOmatrix web interface automatically populates with some data about your input and output cards. There are some aspects that you can configure in addition to the default information.

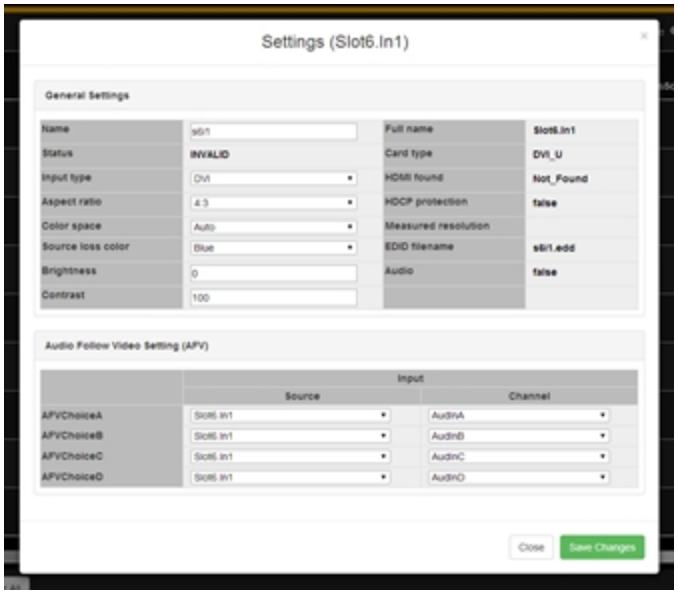
The signal coming in to the CORIOmatrix can be in a variety of possible aspect ratios. You can configure the desired aspect ratio in the input settings.

To configure the aspect ratio of the input:

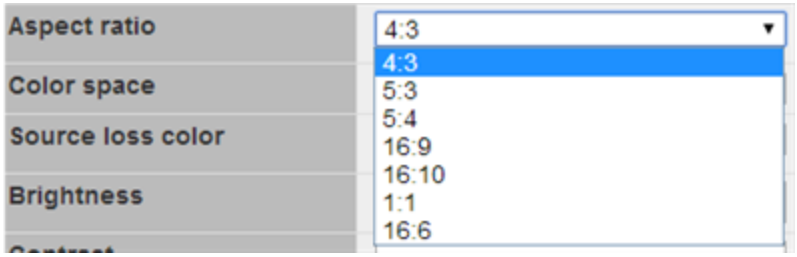
1. Click on the gear icon next to the input you wish to configure.

2. The right-hand pane shows some information about that input, including the full name, the alias, and the status of the slot:

3. Click the **Configure** button in the bottom right hand corner of the settings pane. A new window pops up:



4. From this window, **Aspect ratio** is in the left column, halfway down. Click on the drop-down menu to choose the aspect ratio you prefer from such options as 4:3, 5:3, 5:4, 16:9, 16:10, 1:1, and 16:6.



5. When you have finished configuring the input to your requirements, click the **Save changes** button and the window closes, returning you to the Routing table.

Configuring Input Brightness

The CORIOmatrix web interface automatically populates with some data about your input and output cards. There are some aspects that you can configure in addition to the default information.

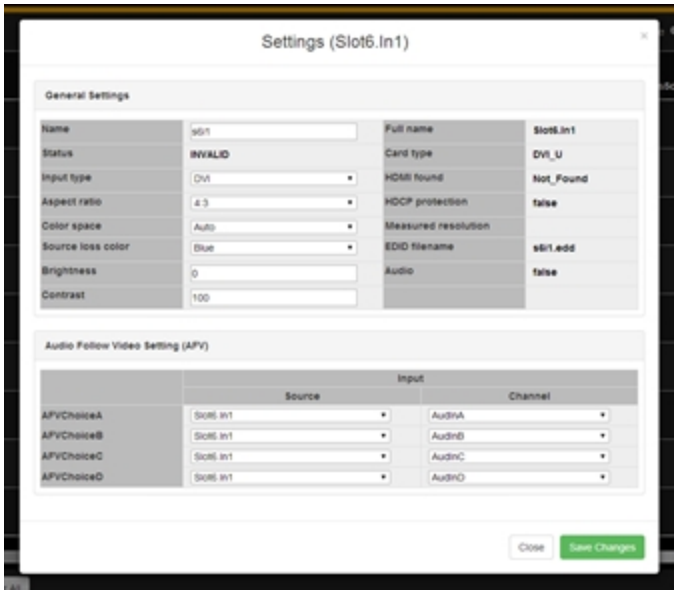
You can adjust the brightness and contrast of the incoming signal, which may be useful when you are switching between and matching sources of varying brightness and contrast levels.

To configure the brightness of the input:

1. Click on the gear icon next to the input you wish to configure.

2. The right-hand pane shows some information about that input, including the full name, the alias, and the status of the slot:

3. Click the **Configure** button in the bottom right hand corner of the settings pane. A new window pops up:



4. From this window, **Brightness** is in the left column, towards the bottom. Click into the text box and type an integer between -30 and 30. The default value is 0.
5. When you have finished configuring the input to your requirements, click the **Save changes** button and the window closes, returning you to the Routing table.

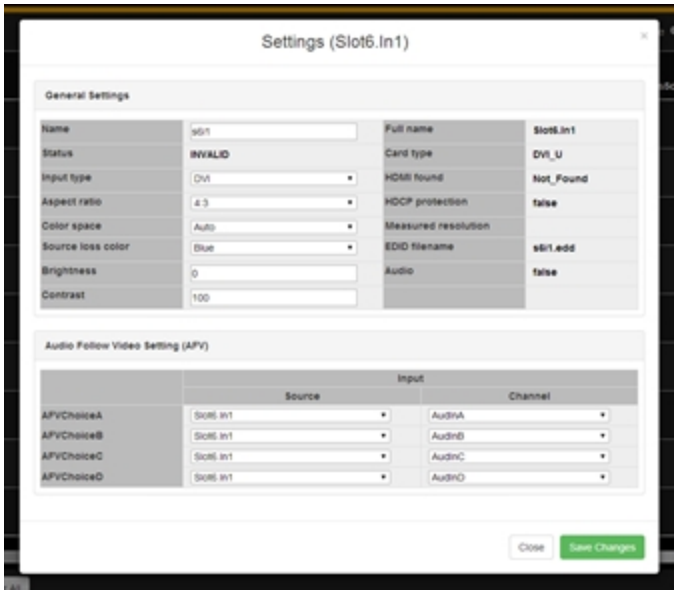
Configuring Input Color Space

The CORIOmatrix web interface automatically populates with some data about your input and output cards. There are some aspects that you can configure in addition to the default information. To configure the color space of the input:

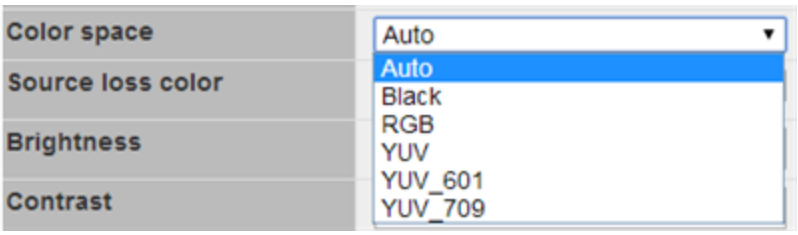
1. Click on the gear icon next to the input you wish to configure.

2. The right-hand pane shows some information about that input, including the full name, the alias, and the status of the slot:

3. Click the **Configure** button in the bottom right hand corner of the settings pane. A new window pops up:



4. From this window, **Color space** is in the left column, halfway down. Click on the drop-down menu to choose the color space you prefer. Options depend on what the input type is, but may include Auto (automatically selects based on source type), Black (blanks the input), RGB (for RGB inputs), YUV (defaults to 709 for 720p/1080i/1080p resolutions; defaults to 601 for all other resolutions), YUV_601, and YUV_709 (both specific options within the YUV color space).



5. When you have finished configuring the input to your requirements, click the **Save changes** button and the window closes, returning you to the Routing table.

Note: Selecting the color space does not affect the configured Output Display Type. To adjust the Output Display Type, see "Configuring Output Display Type" on page 104.

Configuring Input Contrast

The CORIOmatrix web interface automatically populates with some data about your input and output cards. There are some aspects that you can configure in addition to the default information.

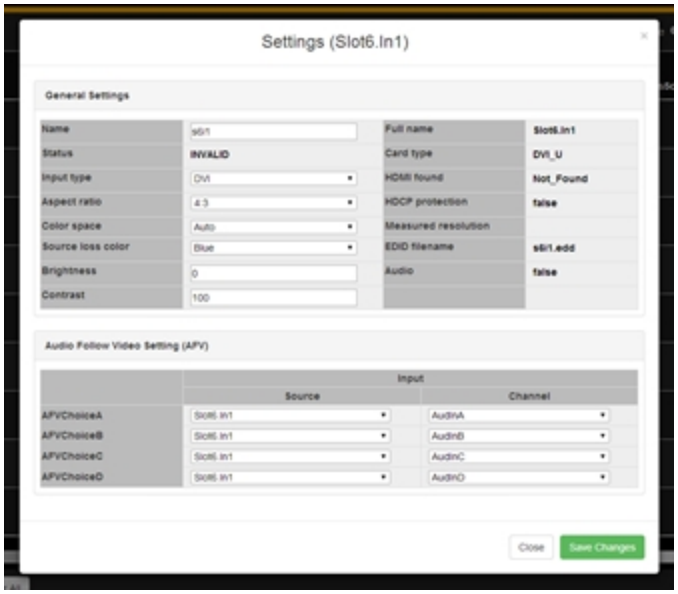
You can adjust the brightness and contrast of the incoming signal, which may be useful when you are switching between and matching sources of varying brightness and contrast levels.

To configure the contrast of the input:

1. Click on the gear icon next to the input you wish to configure.

2. The right-hand pane shows some information about that input, including the full name, the alias, and the status of the slot:

3. Click the **Configure** button in the bottom right hand corner of the settings pane. A new window pops up:



4. From this window, **Contrast** is in the left column, at the bottom. Click into the text field and select a value (as a percentage) between 30 and 130. The default value is 100%.
5. When you have finished configuring the input to your requirements, click the **Save changes** button and the window closes, returning you to the Routing table.

Configuring Input Type

The CORIOmatrix web interface automatically populates with some data about your input and output cards. There are some aspects that you can configure in addition to the default information.

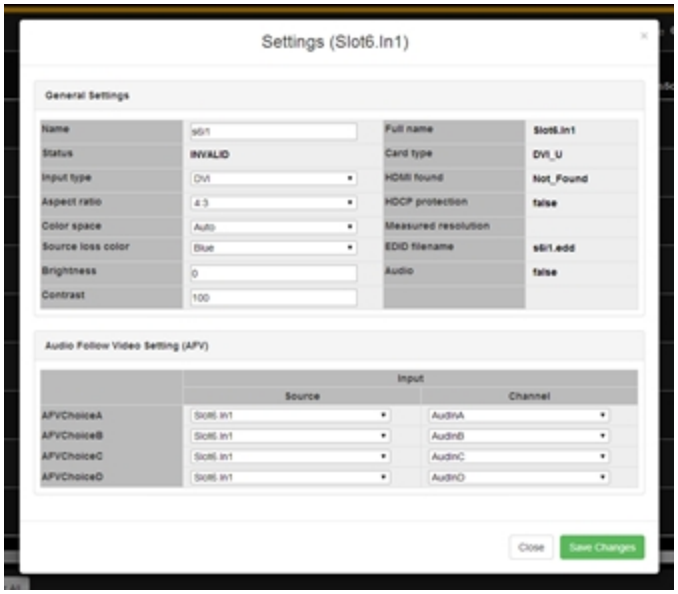
Both DVI-I and Universal DVI (DVI-U) inputs are capable of receiving a number of different signals, and you can configure the input to the expected signal type.

To configure the input type of the input:

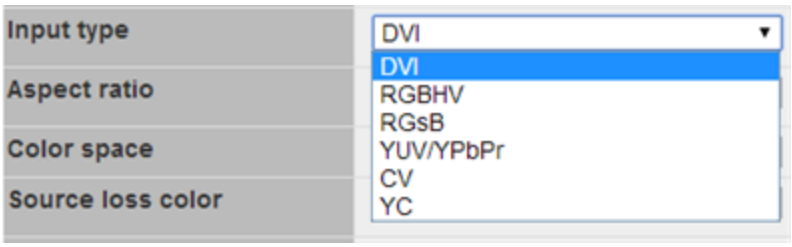
1. Click on the gear icon next to the input you wish to configure.

2. The right-hand pane shows some information about that input, including the full name, the alias, and the status of the slot:

3. Click the **Configure** button in the bottom right hand corner of the settings pane. A new window pops up:



4. From this window, **Input type** is in the left column, halfway down. Click on the drop-down menu to choose the appropriate input type. Choices include DVI (the digital option - choose this for HDMI input); RGBHV (analog RGB with HV, separate horizontal and vertical sync); RGsB (Analog RGB with sync on Green); YUV/YPbPr (YUV with sync on Y - use this also for YPbPr component analog); CV (Composite Video); and YC (Luminance and Chrominance).



5. When you have finished configuring the input to your requirements, click the **Save changes** button and the window closes, returning you to the Routing table.

Configuring Source Loss Color

The CORIOmatrix web interface automatically populates with some data about your input and output cards. There are some aspects that you can configure in addition to the default information.

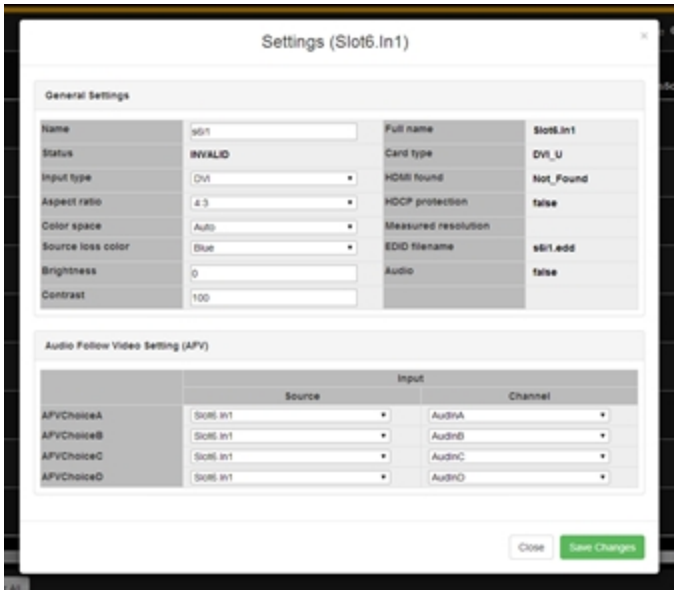
If the input source is disconnected, the video feed will switch to a blank screen. You can configure the color you would like the screen to show in the event that there is no video feed coming in.

To configure the source loss color:

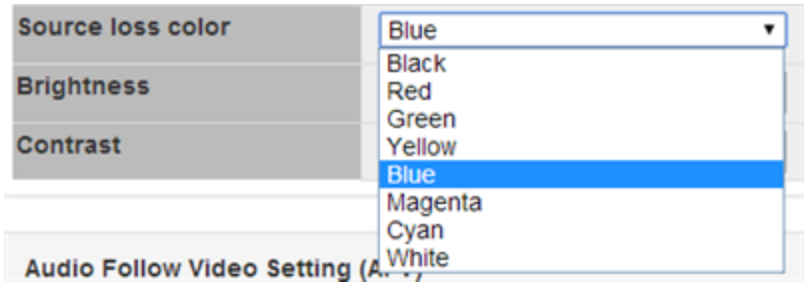
1. Click on the gear icon next to the input you wish to configure.

2. The right-hand pane shows some information about that input, including the full name, the alias, and the status of the slot:

3. Click the **Configure** button in the bottom right hand corner of the settings pane. A new window pops up:



4. From this window, **Source loss color** is in the left column, halfway down. Click on the drop-down menu to choose the color you prefer to display if there is no input signal. Choices include black, red, green, yellow, blue, magenta, cyan and white. If you do not configure this setting, the default color is blue.



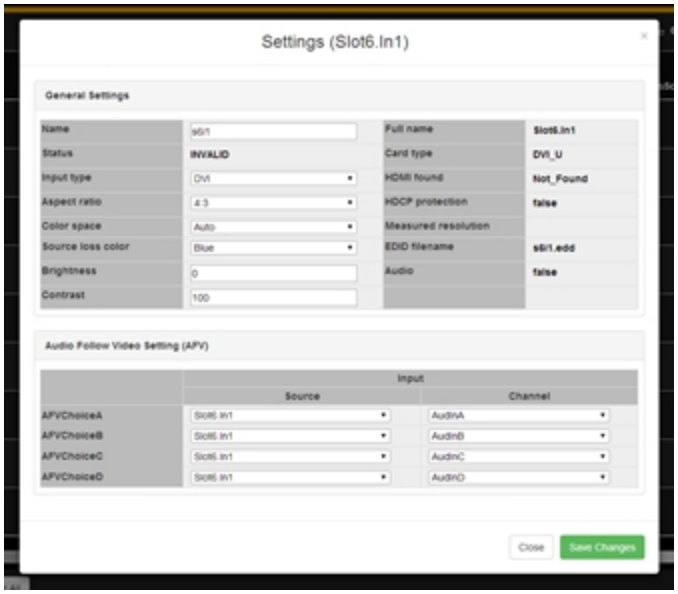
5. When you have finished configuring the input to your requirements, click the **Save changes** button and the window closes, returning you to the Routing table.

Reading Input Values from Input Settings

The CORIOmatrix web interface automatically populates with some data about your input and output cards. There are some aspects that you can configure in addition to the default information. Some information is not configurable, but you can check what the settings are in the Input Settings window.

1. Click on the gear icon next to the input you wish to configure.
2. The right-hand pane shows some information about that input, including the full name, the alias, and the status of the slot:

3. Click the **Configure** button in the bottom right hand corner of the settings pane. A new window pops up:



4. In **Status** on the left column and the entire right-hand column, you are shown settings that are detected by the system. These are not configurable but may be useful for troubleshooting purposes. From this page, you can learn the status of the current input connection, tthe full name of the slot in question, what type of card is detected, whether HDMI is detected (options are "Found" or "Not_Found"), whether HDCP is enabled, the measured resolution of the input signal, the location of the EDID file for this input, and whether input audio is detected. The options available here will vary depending on type of module; if an option is not relevant for a certain module, it will not be shown in this window.
5. As there are no modifiable values discussed here, click **Close** to exit back to the Routing table. (If you have made any changes to modifiable fields, click the **Save changes** button first, or you will lose the changes when you close the window.)

Configuring Output Settings

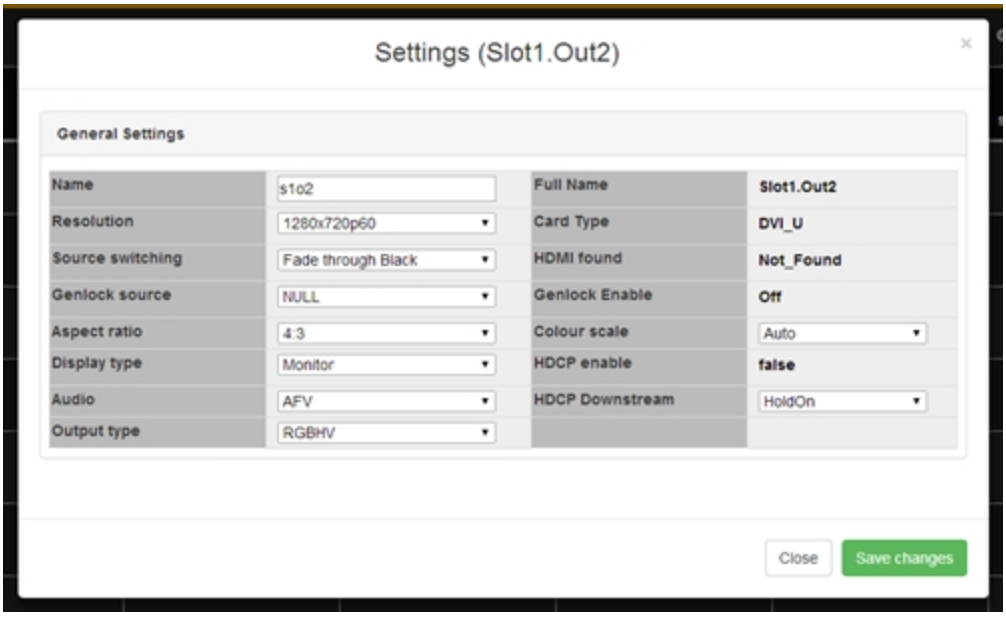
The CORIOmatrix web interface automatically populates with some data about your input and output cards. There are some aspects that you can configure in addition to the default information. To do this:

1. Click on the gear icon next to the output you wish to configure.

2. The right-hand pane shows some information about that output, including the full name, the alias, and the status of the slot:

From this pane, you can change the alias, if you wish to rename the slot to something more memorable, such as "Main_LCD". The alias must begin with a letter and contain only letters, numbers, and underscores (no spaces). You can also adjust the resolution of the output from the drop-down list of selections. If this is all you wish to modify, press the **Done** button and return to the Routing page.

3. If you wish to configure more than simply the alias or resolution, click the **Configure** button in the bottom right hand corner of the settings pane. A new window pops up:



4. From this window, you can again adjust the **alias** and **resolution**, as above; you can set the **source switching** method, identify a **genlock source**, set the **aspect ratio**, define the **display type**, select the **audio option**, define the **output type**, set **color scale** and toggle **HDCP downstream** settings for the slot. This window also tells you details about the slot such as **name**, detected **card type**, **measured resolution**, and whether **audio** is detected. Some of these items are only available on DVI cards; the output settings for SDI cards will have blank fields for inapplicable options.
5. When you have finished configuring the output to your requirements, click the **Save changes** button and the window closes, returning you to the Routing table.

Configuring Output Alias

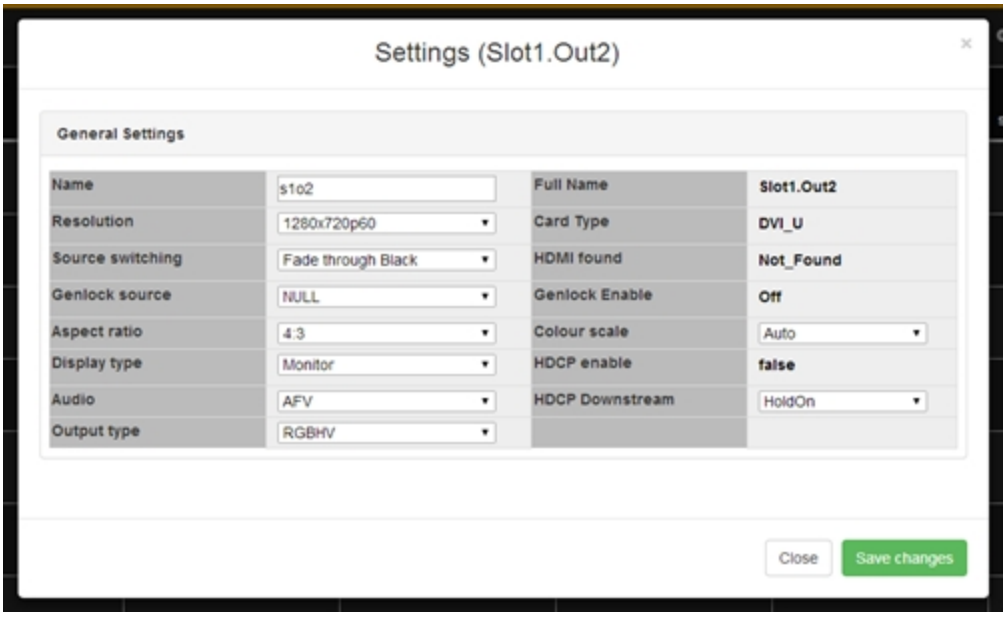
The CORIOmatrix web interface automatically populates with some data about your input and output cards. There are some aspects that you can configure in addition to the default information. There are two ways to configure the alias of the output:

1. Click on the gear icon next to the output you wish to configure.

2. The right-hand pane shows some information about that output, including the full name, the alias, the status of the slot and the resolution. If you only wish to change the alias of the output, you can type it into the text field here - the name must begin with a letter and be a maximum of 19 alphanumeric characters (no spaces, but an underscore "_" is fine):

If that is all you wish to change, be sure to click the **Done** button to commit the change and the **Save** button to save changes.

3. If you wish to modify more than just the alias, click the **Configure** button in the bottom right hand corner of the settings pane. A new window pops up:



4. From this window, **Name** (same as **Alias**) is in the left column, at the top.You can type into this text field to set an alias, just as above.
5. When you have finished configuring the output to your requirements, click the **Save changes** button and the window closes, returning you to the Routing table.

Configuring Output Aspect Ratio

The CORIOmatrix web interface automatically populates with some data about your input and output cards. There are some aspects that you can configure in addition to the default information.

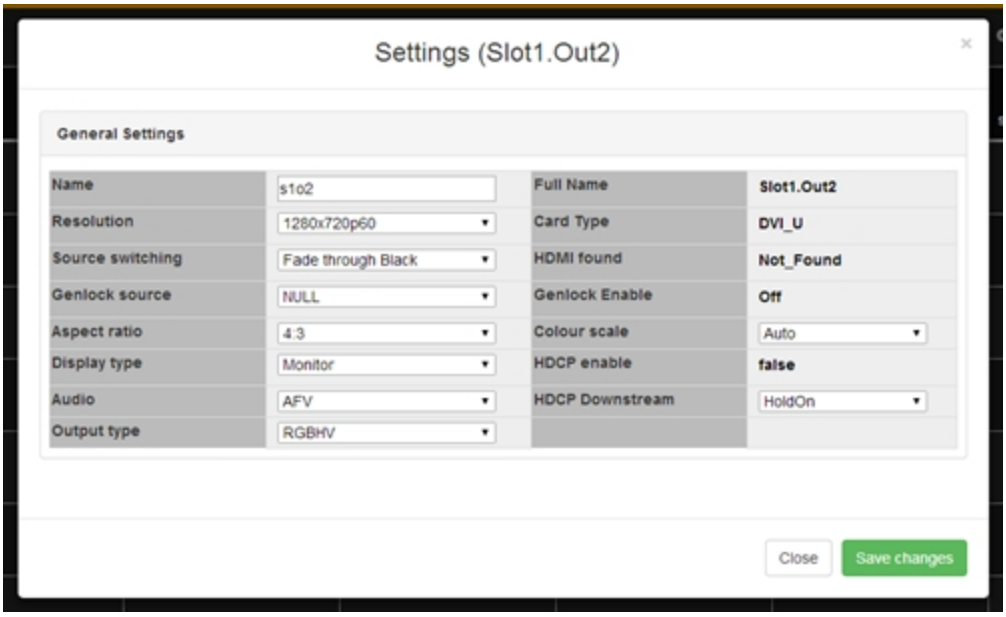
The signal going out of the CORIOmatrix can be in a variety of possible aspect ratios. You can configure the desired aspect ratio in the output settings.

To configure the aspect ratio of the output:

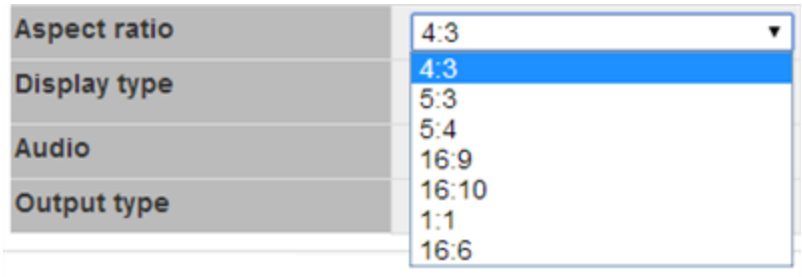
1. Click on the gear icon next to the input you wish to configure.

2. The right-hand pane shows some information about that output, including the full name, the alias, the status of the slot, and the resolution:

3. Click the **Configure** button in the bottom right hand corner of the settings pane. A new window pops up:



4. From this window, **Aspect ratio** is in the left column, halfway down. Click on the drop-down menu to choose the aspect ratio you prefer from such options as 4:3, 5:3, 5:4, 16:9, 16:10, 1:1, and 16:6.



5. When you have finished configuring the output to your requirements, click the **Save changes** button and the window closes, returning you to the Routing table.

Configuring Output Audio

The CORIOmatrix web interface automatically populates with some data about your input and output cards. There are some aspects that you can configure in addition to the default information.

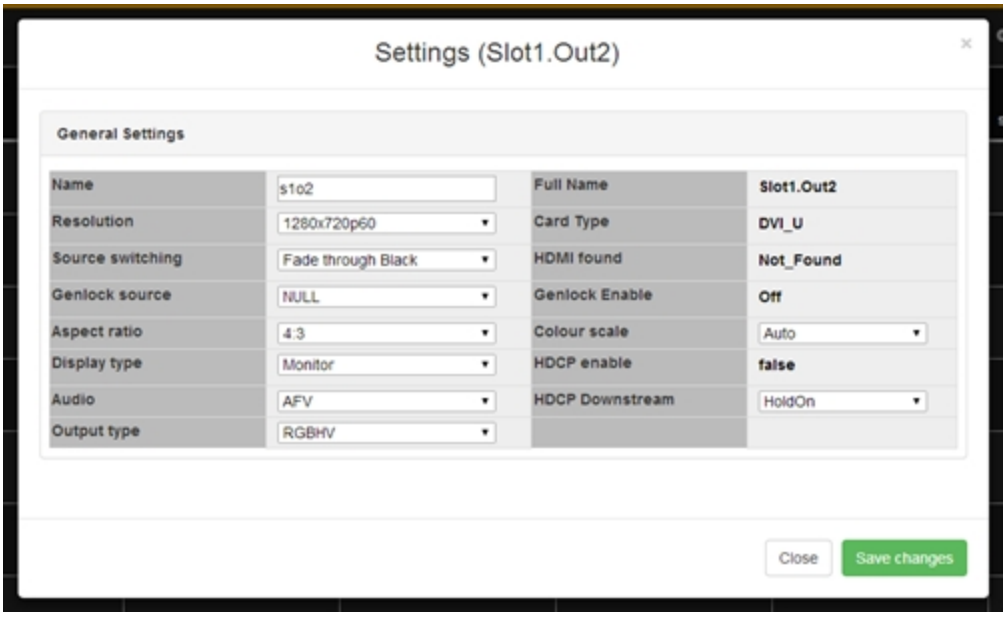
The audio on each output is displayed graphically in the routing table (see "Routing Audio with Output (BreakAway)" on page 128) and can be configured directly from the cell in the routing table, but you can also configure an output's audio from the settings for that particular output.

To configure the audio of the output from within the output settings:

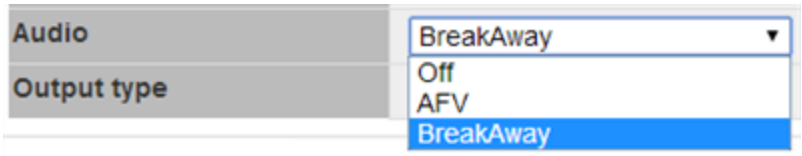
1. Click on the gear icon next to the input you wish to configure.

2. The right-hand pane shows some information about that output, including the full name, the alias, the status of the slot, and the resolution:

3. Click the **Configure** button in the bottom right hand corner of the settings pane. A new window pops up:



4. From this window, **Audio** is in the left column, towards the bottom. Click on the drop-down menu to choose the audio you prefer - Off, AFV or BreakAway. Note that setting the AFV or BreakAway preference here does NOT define which input the audio is coming from, it simply sets a preferred default state for this output.



5. When you have finished configuring the output to your requirements, click the **Save changes** button and the window closes, returning you to the Routing table.

Note: For more details on audio routing within the routing table, see "Routing Audio with Input (AFV)" on page 123 and "Routing Audio with Output (BreakAway)" on page 128.

Configuring Output Color Scale

The CORIOmatrix web interface automatically populates with some data about your input and output cards. There are some aspects that you can configure in addition to the default information.

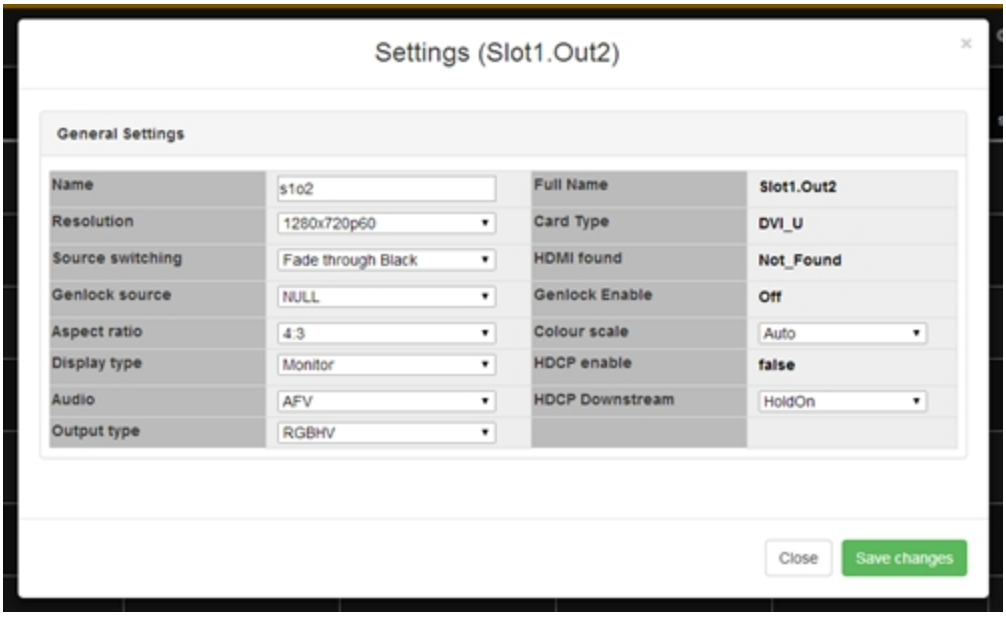
Both DVI-I and Universal DVI (DVI-U) outputs are capable of sending a number of different signals, and you can configure the output to the expected signal type.

To configure the color scale of the output:

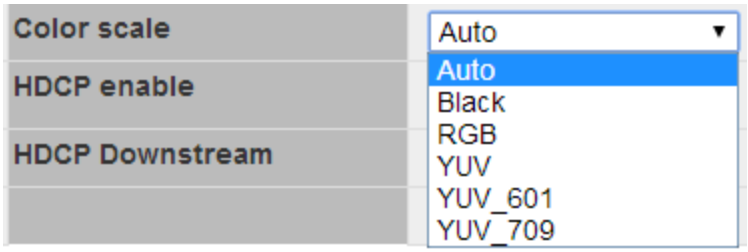
1. Click on the gear icon next to the input you wish to configure.

2. The right-hand pane shows some information about that output, including the full name, the alias, the status of the slot, and the resolution:

3. Click the **Configure** button in the bottom right hand corner of the settings pane. A new window pops up:



4. From this window, **Color scale** is in the right column, halfway down. Click on the drop-down menu to choose the color scale you prefer. Options may vary, but may include Auto, Black, RGB, YUV, YUV_601, and YUV_709.



5. When you have finished configuring the output to your requirements, click the **Save changes** button and the window closes, returning you to the Routing table.

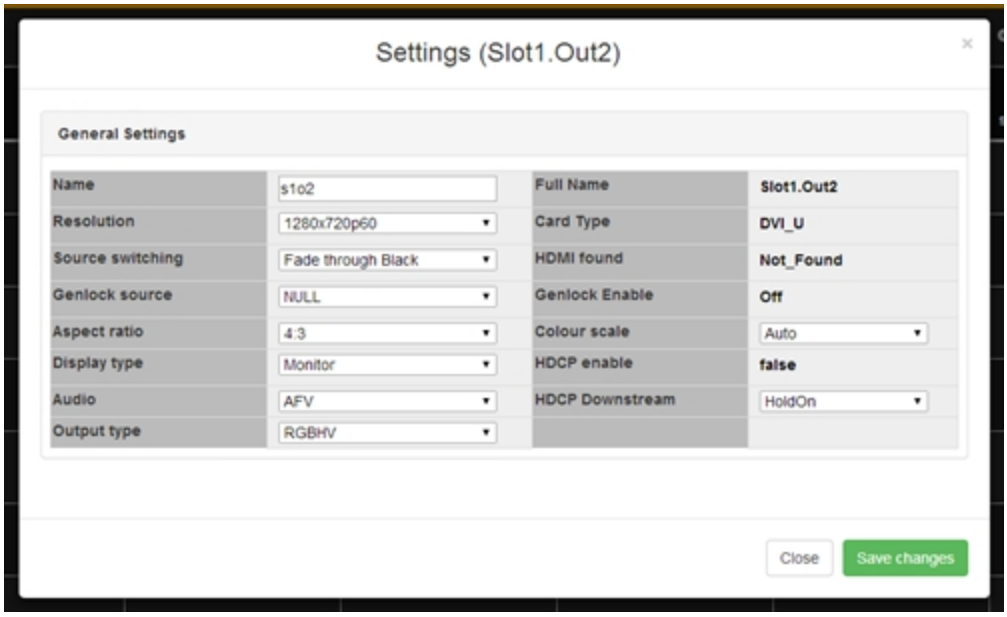
Configuring Output Display Type

The CORIOmatrix web interface automatically populates with some data about your input and output cards. There are some aspects that you can configure in addition to the default information. To configure the display type of the output:

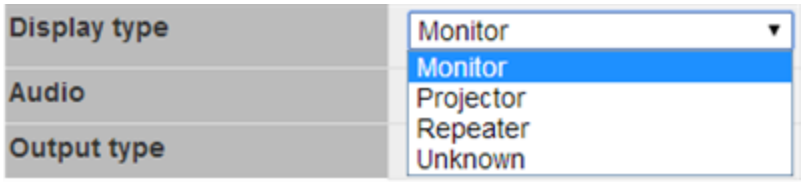
1. Click on the gear icon next to the input you wish to configure.

2. The right-hand pane shows some information about that output, including the full name, the alias, the status of the slot, and the resolution:

3. Click the **Configure** button in the bottom right hand corner of the settings pane. A new window pops up:



4. From this window, **Display type** is in the left column, halfway down. Click on the drop-down menu to choose the display type you prefer, from such choices as Monitor, Projector, Repeater, and Unknown.



5. When you have finished configuring the output to your requirements, click the **Save changes** button and the window closes, returning you to the Routing table.

Configuring Output Genlock Source

The CORIOmatrix web interface automatically populates with some data about your input and output cards. There are some aspects that you can configure in addition to the default information.

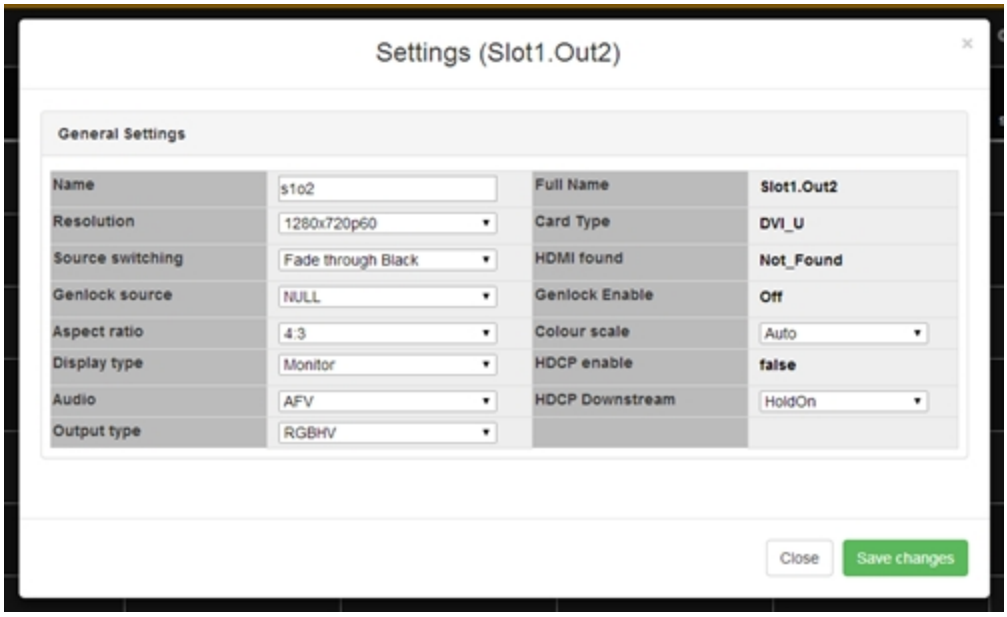
Genlock allows you to synchronize one or more outputs to a compatible input. Note that in order to genlock, the resolution and frame rate of the output and input must match exactly. If they do not match exactly, despite having selected a source, the Output setting "Genlock enable" will show "Off" to indicate that genlock was not achieved. If this is the case, check available resolutions and frame rates of both output and input to try to find a match.

To configure the genlock source of the output:

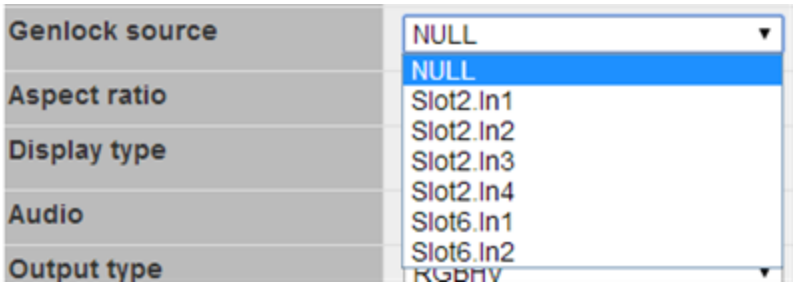
1. Click on the gear icon next to the output you wish to configure.

2. The right-hand pane shows some information about that output, including the full name, the alias, the status of the slot, and the resolution:

3. Click the **Configure** button in the bottom right hand corner of the settings pane. A new window pops up:



4. From this window, **Genlock source** is in the left column, halfway down. Click on the drop-down menu to choose the source you would like to genlock to.



5. When you have finished configuring the output to your requirements, click the **Save changes** button and the window closes, returning you to the Routing table.

Configuring Output HDCP Downstream

The CORIOmatrix web interface automatically populates with some data about your input and output cards. There are some aspects that you can configure in addition to the default information.

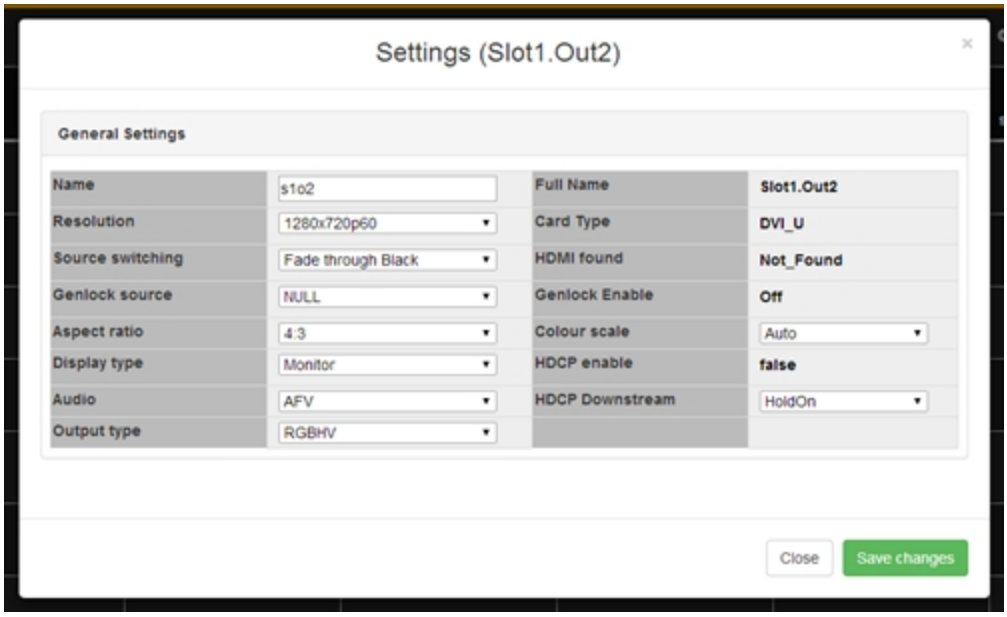
The HDCP Downstream feature gives you the ability to change the way each output handles "HDCP Downstream" communications.

- In the default setting, "Hold On", the Output is permanently HDCP enabled and will work if the display device is HDCP compliant.
- The "Keep Off" option disables HDCP on the Output, meaning that only non-HDCP sources will work on the Output.
- The "Follow Sources" option turns the HDCP on the output on or off depending on source stream - if HDCP is present on the source stream, it will require HDCP compliance from downstream devices.

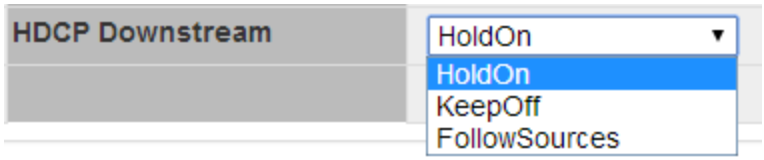
To configure the HDCP settings of the output:

1. Click on the gear icon next to the input you wish to configure.
2. The right-hand pane shows some information about that output, including the full name, the alias, the status of the slot, and the resolution:

3. Click the **Configure** button in the bottom right hand corner of the settings pane. A new window pops up:



4. From this window, **HDCP Downstream** is in the right column, at the bottom. Click on the drop-down menu to choose the HDCP settings you prefer- **HoldOn**, **KeepOff** or **FollowSources**.



5. When you have finished configuring the output to your requirements, click the **Save changes** button and the window closes, returning you to the Routing table.

Configuring Output Resolution

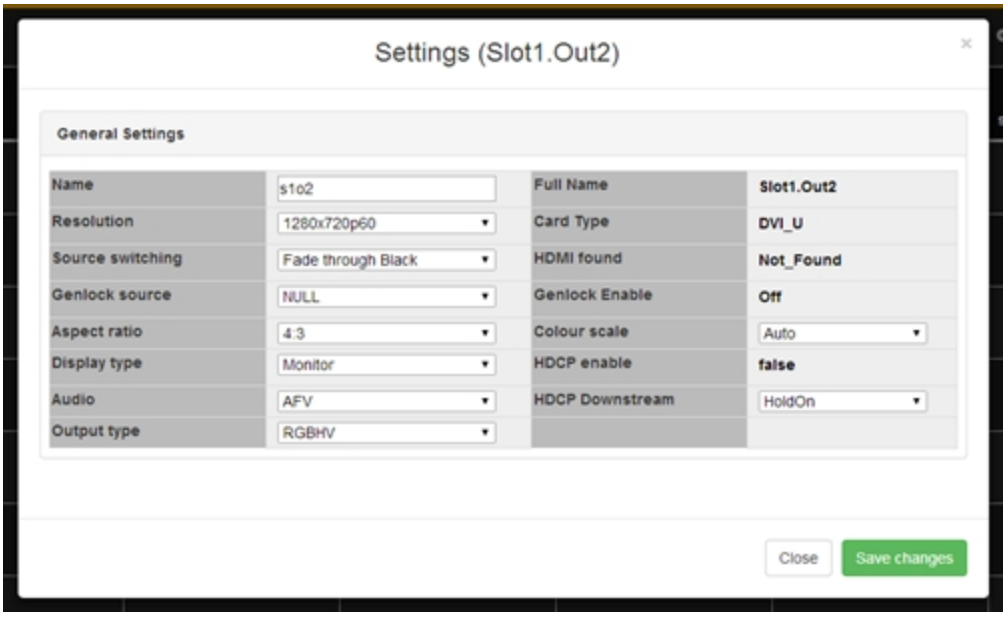
The CORIOmatrix web interface automatically populates with some data about your input and output cards. There are some aspects that you can configure in addition to the default information. There are two ways to configure the resolution of the output:

1. Click on the gear icon next to the output you wish to configure.

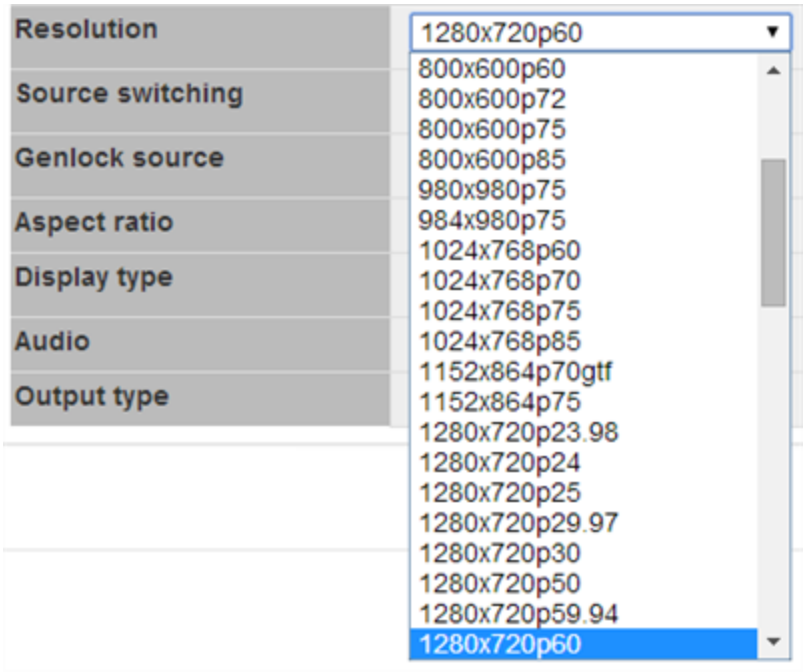
2. The right-hand pane shows some information about that output, including the full name, the alias, the status of the slot, and the resolution. If you only wish to change the resolution of the output, you can choose your preferred resolution from the drop-down list here:

If that is all you wish to change, be sure to click the **Done** button to commit the change and the **Save** button to save changes.

3. If you wish to modify more than just the resolution, click the **Configure** button in the bottom right hand corner of the settings pane. A new window pops up:



4. From this window, **Resolution** is in the left column, near the top. Click on the drop-down menu to choose the resolution you prefer.



5. When you have finished configuring the output to your requirements, click the **Save changes** button and the window closes, returning you to the Routing table.

Note: Be aware that when you change the resolution of an output, after three seconds, all outputs will go blank for a moment, due to an attempt to renegotiate Framelock.

Note: If you wish to create and use Custom Resolutions beyond the built-in resolutions available on your unit, use the Resolution Editor available in the CORIOdiscover application - see "Resolution Editor" on page 154. The Resolution Editor feature is only available on units running firmware version 105 or later and CORIOdiscover software version 2.0.0 or later.

Configuring Source Switching

The CORIOmatrix web interface automatically populates with some data about your input and output cards. There are some aspects that you can configure in addition to the default information.

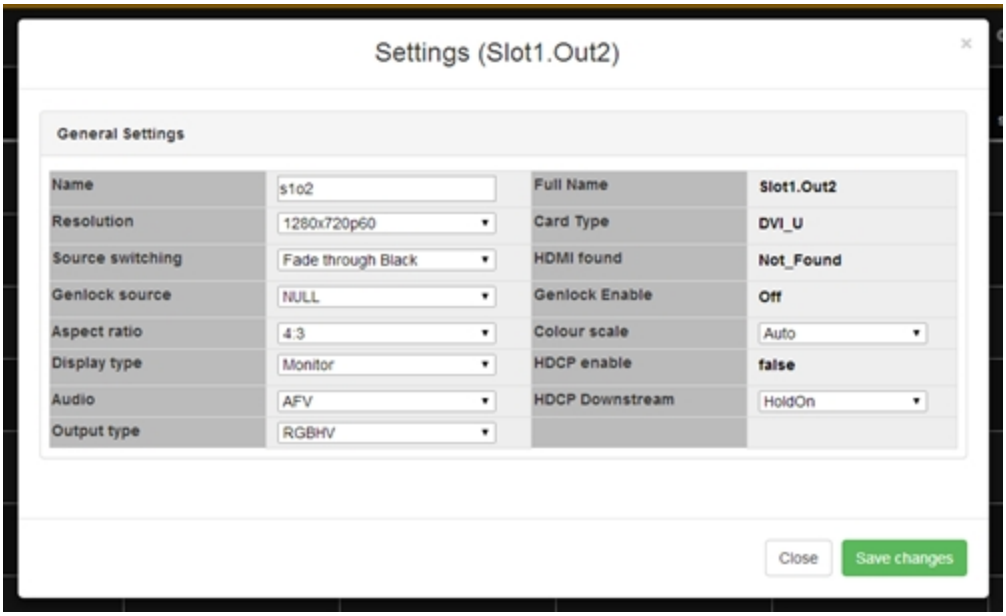
On occasions, you may find you want to quickly switch between inputs. There are two methods provided for this. **Fade through Black**, the default, fades a source out to black and fades the incoming source from black, giving a smooth transmission. **Freeze and Cut** freezes the first source and cuts the incoming source in from the frozen image.

To configure the behavior of source switching for the output:

1. Click on the gear icon next to the output you wish to configure.

2. The right-hand pane shows some information about that output, including the full name, the alias, the status of the slot, and the resolution:

3. Click the **Configure** button in the bottom right hand corner of the settings pane. A new window pops up:



4. From this window, **Source switching** is in the left column, halfway down. Click on the drop-down menu to choose the source switching transition you prefer - Fade through Black or Freeze and Cut.

5. When you have finished configuring the output to your requirements, click the **Save changes** button and the window closes, returning you to the Routing table.

Configuring Output Type

The CORIOmatrix web interface automatically populates with some data about your input and output cards. There are some aspects that you can configure in addition to the default information.

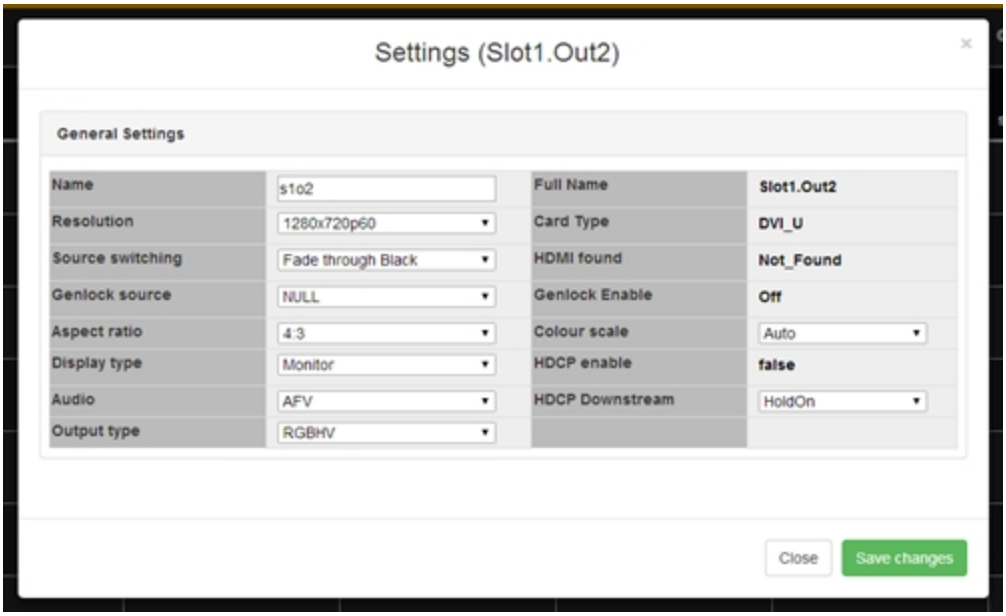
Both DVI-I and Universal DVI (DVI-U) outputs are capable of sending a number of different signals, and you can configure the output to the expected signal type.

To configure the type of the output:

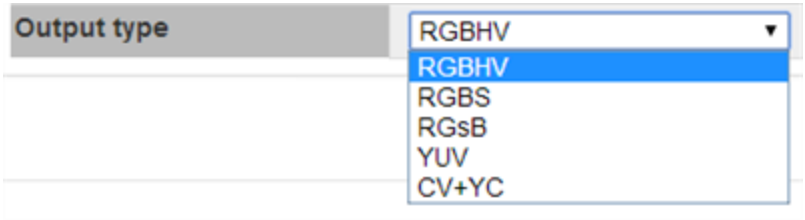
1. Click on the gear icon next to the input you wish to configure.

2. The right-hand pane shows some information about that output, including the full name, the alias, the status of the slot, and the resolution:

3. Click the **Configure** button in the bottom right hand corner of the settings pane. A new window pops up:



4. From this window, **Output type** is in the left column, at the bottom. Click on the drop-down menu to choose the output type you prefer. Choices may vary but include RGBHV (analog and digital), RGBS, RGsB, YUV, and CV + YC.

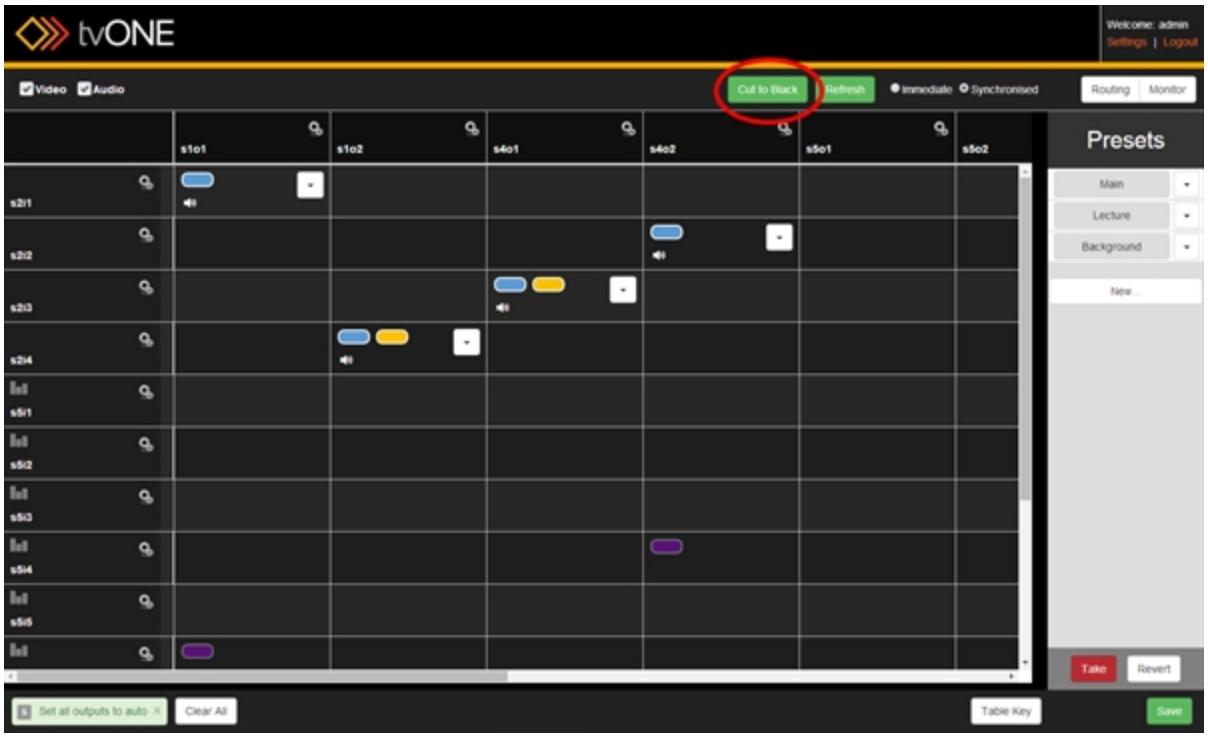


5. When you have finished configuring the output to your requirements, click the **Save changes** button and the window closes, returning you to the Routing table.

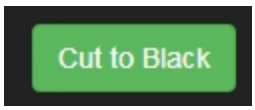
Cut to Black

In some cases, in a live setting, you may want to cut all outputs to a black background, or cut the video in from black.

If you wish to use the Cut to Black functionality, use the button at the top of the Routing page:



As soon as you press the **Cut to Black** button, all outputs are set to black (even if you are in Synchronized mode - you do not have to press the **Take** button). You can tell **Cut to Black** has been implemented because the notification area shows the message "Set all outputs to black" and the **Cut to Black** button is a deeper green, indicating that it is currently in a pressed state. See below for a comparison of the inactive and active button states.



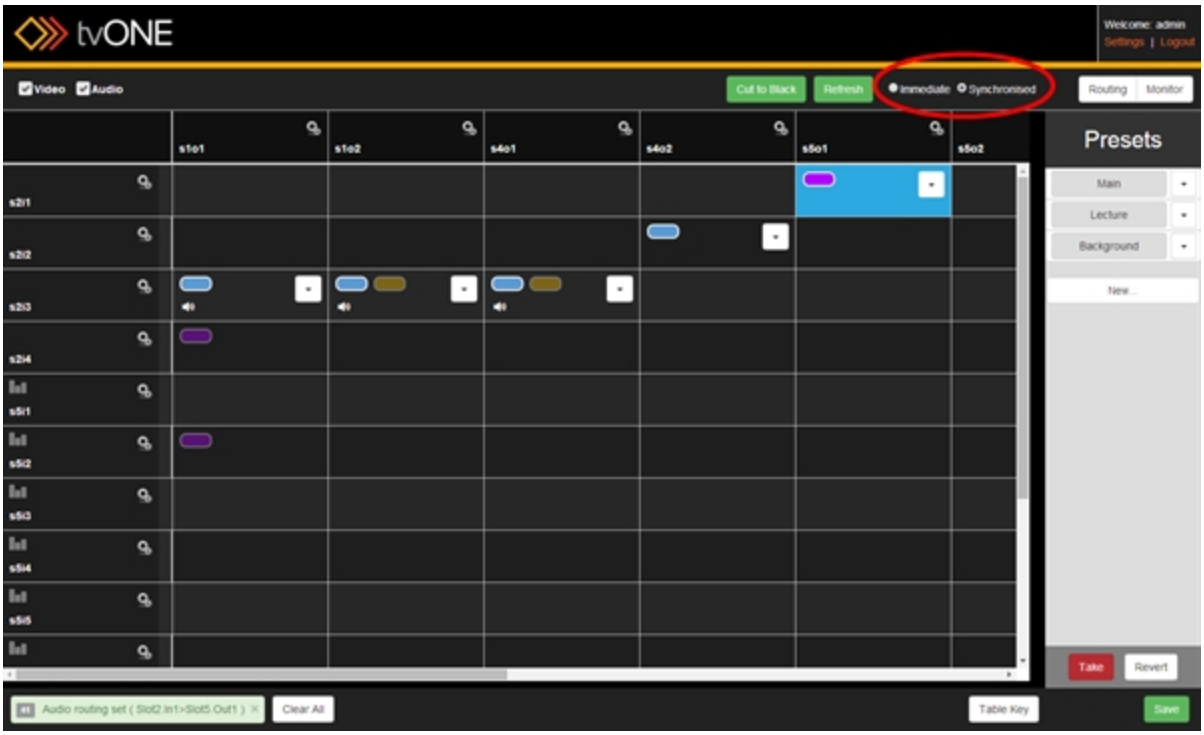
To reverse this, press the **Cut to Black** button a second time. Video and audio outputs are set back to their previous configuration. The notification area says "Set all outputs to auto" and the **Cut to Black** button returns to its original color.

Command Line

This feature is also available via command line. If you are not confident with the command line interface, please use the GUI provided; however, if you are comfortable with the command line and wish to use it instead of the user interface, the command is `sXoY.CutToBlack = On`. While it is black, the output retains source information. This parameter is not retained in `SaveAllSettings()` - this is intentional and means an output that was set to black will show original routing configuration after the unit is restarted.

Immediate vs Synchronized

There are two modes in which the Routing page functions - **Immediate** and **Synchronized**.



In **Immediate** mode, any action you take is committed individually by the web interface. Each step is live as soon as it has been committed.

Caution: If you are changing from **Synchronized** to **Immediate** mode and you have queued steps in **Synchronized** mode, be sure to click **Take** before changing to **Immediate** mode, as any uncommitted changes will be abandoned when changing to **Immediate** mode.

In **Synchronized** mode, actions are only committed when you initiate a **Take**. You can queue up a number of changes and commit them all at once by making multiple changes before pressing the **Take** button. In this mode, be sure to click the **Take** button before you refresh, disconnect or otherwise abandon your changes.

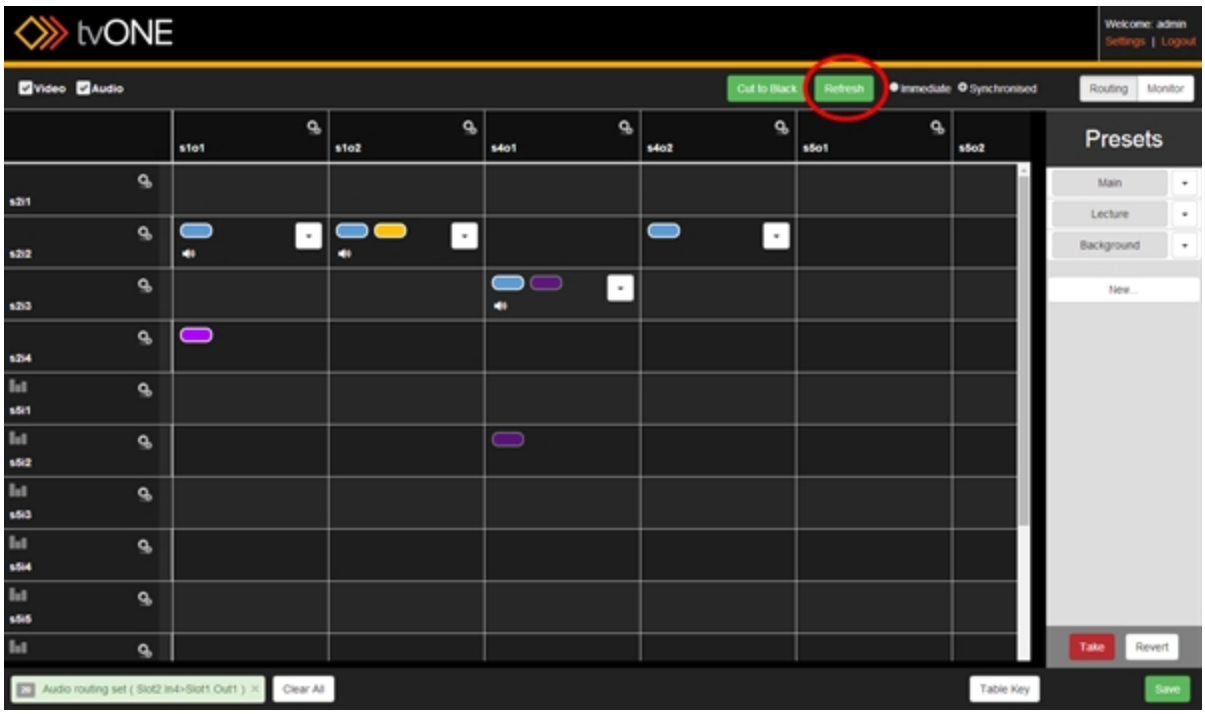
If you are in **Synchronized** mode, any queued but not-yet-committed changes are indicated by a blue cell. In the screenshot above, s2i1 (slot 2, input 1) has been routed to s5o1 (slot 5, output 1) with BreakAway audio, but until the **Take** button is pressed, the change is not live.

If you decide to abandon your changes, use the **Revert** button to remove queued commands and refresh the routing table to the current live configuration.

Refreshing Routing Information

To keep the interface quick and responsive, the system was designed so that it does not regularly poll the CORIOmatrix for slot data. The system pulls information when the routing page is loaded, and it subsequently sends commands to the CORIOmatrix, but it does not regularly refresh the web UI with the current state of the CORIOmatrix.

If you are working in the routing page and wish to poll the CORIOmatrix for slot configuration information, to make sure what it has saved is what you expect, you can click the Refresh button at the top of the routing page.

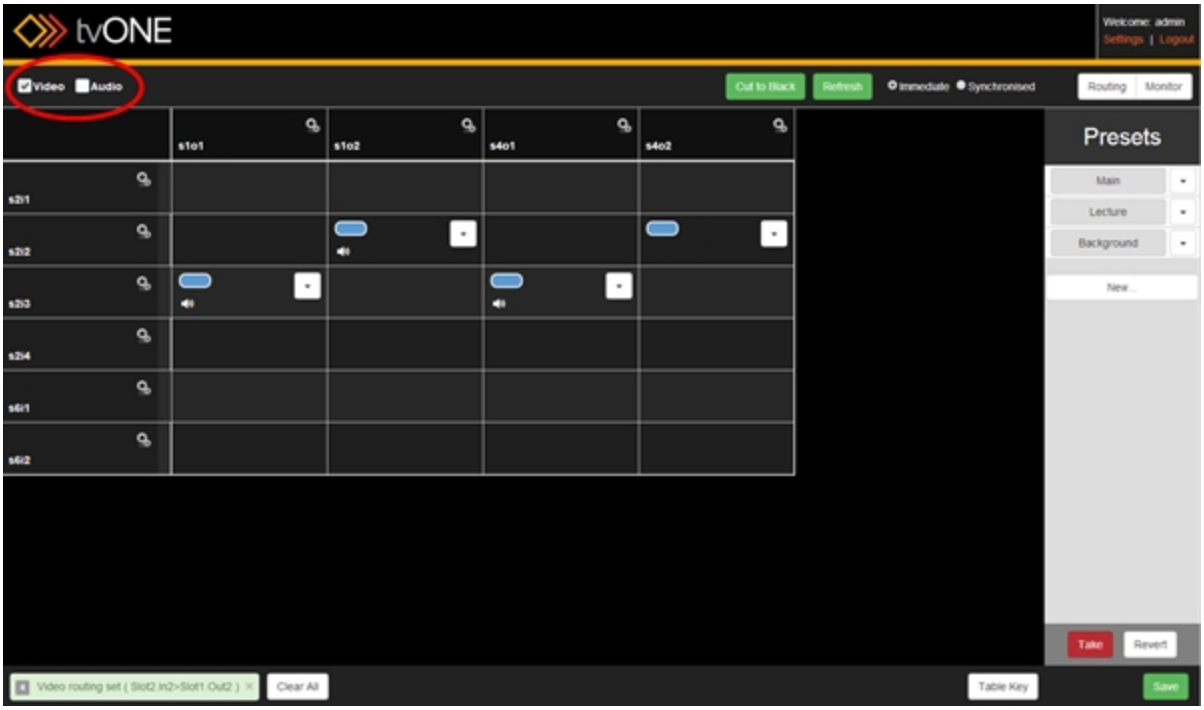


Routing Video

If the system detects that the input for the row you are selecting and the output for the column you are selecting are both appropriate, video-enabled slots, when you click on the cell intersecting the two, a blue lozenge will appear, indicating that the video feed for that input is now routed to that output.

You can confirm this by checking the Notification window - if successful, the notification will say something like "Video routing set (Slot2.In2>Slot1.Out2)".

If you would like to simplify the routing table to look specifically at the video routing, uncheck the Audio box in the top left corner. The table will decrease to show only cards with video options, and selecting a cell will configure only the video portion of the routing. (An audio icon appears in a cell if audio is configured for that routing, but in this view it doesn't specify what the audio routing is.)



Routing Audio with Input (AFV)

When you are configuring audio routing, you have three options.

AFV or Audio Follow Video indicates that the audio routing is defined at the input. This often means that the audio comes from that source, but it can mean that any time that video source is selected, the audio is defined as coming from another input. AFV audio sources are the default embedded source or any audio input, embedded or external AES. AFV audio channels are configured in the Input Settings or from the **Configure...** menu option in the cell's drop-down menu.

BreakAway indicates that the audio routing is defined at the output. By default, breakaway audio uses the same source for video and audio input, but it can mean that anytime that output is selected, the audio is configured to come from a different source. BreakAway audio channels are configured from the **Configure...** menu option in the cell's drop-down menu.

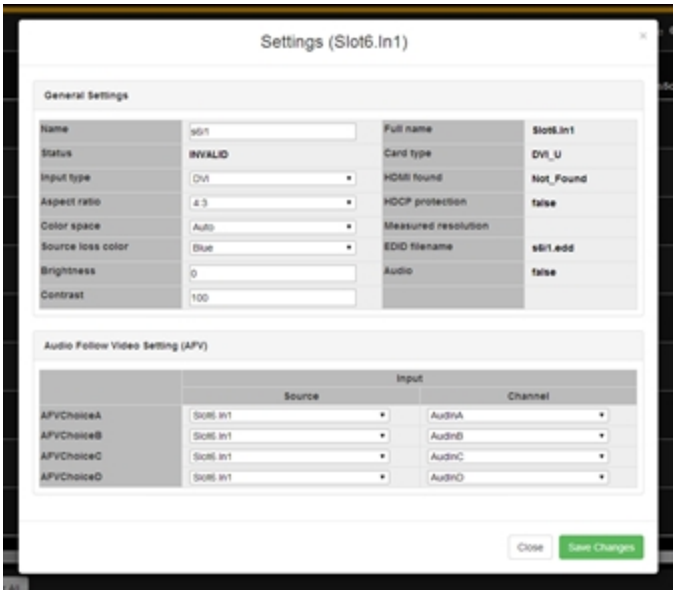
Off, the third option, disables audio for that routing.

Configuring AFV from the Input

To configure AFV (Audio Follow Video), follow these steps:

1. In the left-hand cell for the input you wish to configure, click the gear icon.
2. On the right side of the routing table, the sidebar will show some details of that input including its name and status. Click the **Configure** button in the bottom right corner.

3. In the resulting pop-up window, look in the lower section, labelled Audio Follow Video Setting (AFV).



4. The four potential channels are shown as **AFVChoiceA**, **AFVChoiceB**, **AFVChoiceC** and **AFVChoiceD**. To the right of each of these, you can choose an audio source from any of your audio input options. Simply select the appropriate slot and input number in the first column and the appropriate channel from that card in the second column.
5. When you have configured all available audio channels as you wish, click the **Save changes** button in the bottom right corner. You are returned to the routing page, and any time you select that input for an output, the table will show a yellow lozenge (or multiple yellow lozenges, if audio is split between multiple inputs) in the appropriate cell intersecting that output with whichever input is the audio source.

Note: This section shows four channels even if the video card only supports two channels, such as an HD-SDI input module. In this case, the selections for **AFVChoiceC** and **AFVChoiceD** will be ignored. If you are unsure how many channels are available for that input and you have a monitor card, check the number of audio bars associated with the input in the Monitor section.

Note: All audio for a given routing must come from the same card - if you try to select multiple cards as sources, you will see an alert message notifying you that your inputs must all be co-timed.

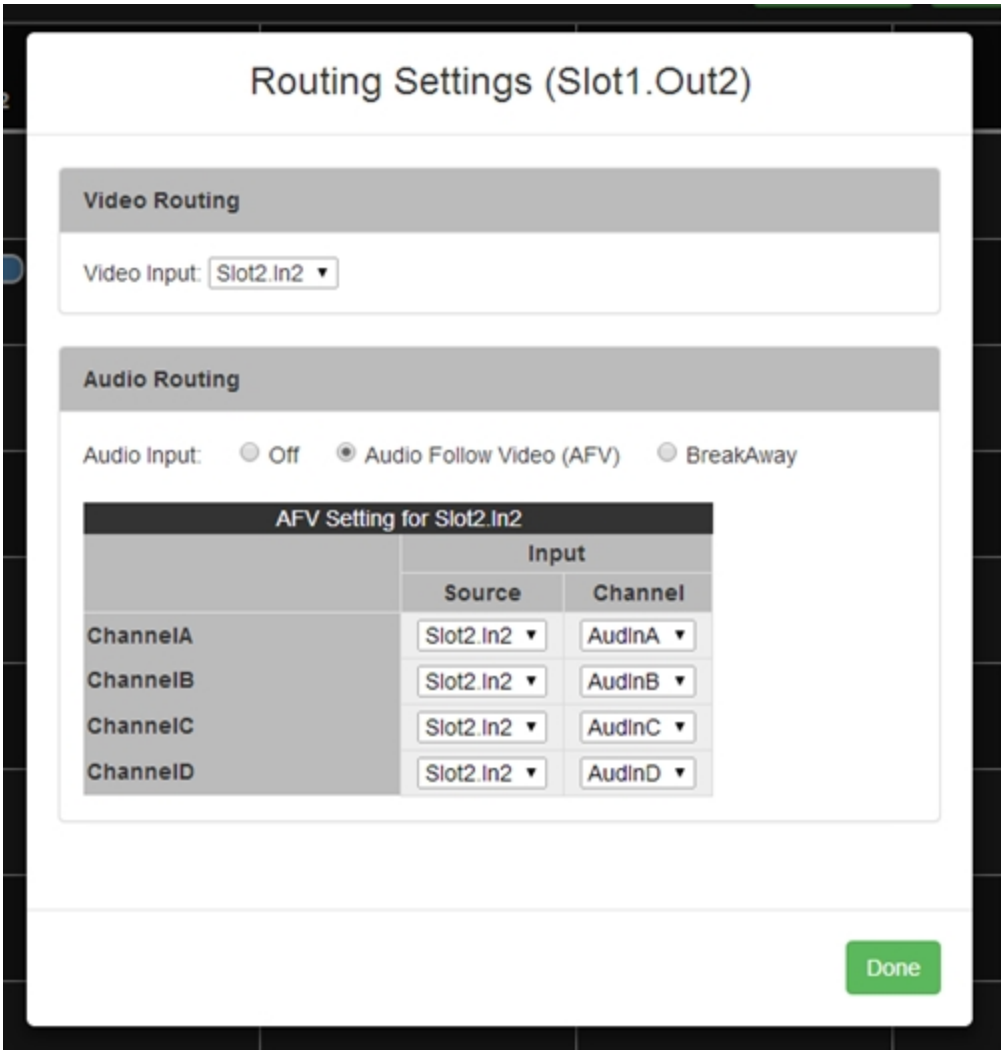
Configuring AFV from the Routing Table Cell

Alternatively, AFV routing can be configured the same way BreakAway routing is configured:

1. In the cell that shows the intersection between the desired input and desired output, click on the drop-down arrow.

2. In the resulting pop-up, choose **Configure...**

3. A window pops up



4. The upper section shows the video input that has been chosen to correspond to this output. The lower section shows the default audio configuration.
Change the **Audio Input:** radio button to **Audio Follow Video (AFV)**.
The four potential audio channels are shown as **ChannelA**, **ChannelB**, **ChannelC** and **ChannelD**. To the right of each of these, you can choose an audio source from any of your audio input options. Simply select the appropriate slot and input number in the first column and the appropriate channel from that card in the second column.

5. When you have configured all available audio channels as you wish, click the **Done** button in the bottom right corner. You are returned to the routing page.

Routing Audio with Output (BreakAway)

When you are configuring audio routing, you have three options.

AFV or Audio Follow Video indicates that the audio routing is defined at the input. This often means that the audio comes from that source, but it can mean that any time that video source is selected, the audio is defined as coming from another input. AFV audio sources are the default embedded source or any audio input, embedded or external AES. AFV audio channels are configured in the Input Settings.

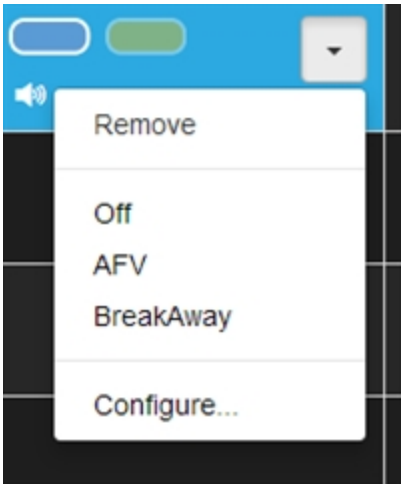
BreakAway indicates that the audio routing is defined at the output. By default, breakaway audio uses the same source for video and audio input, but it can mean that anytime that output is selected, the audio is configured to come from a different source. BreakAway audio channels are configured from the **Configure...** menu option in the cell's drop-down menu.

Off, the third option, disables audio for that routing.

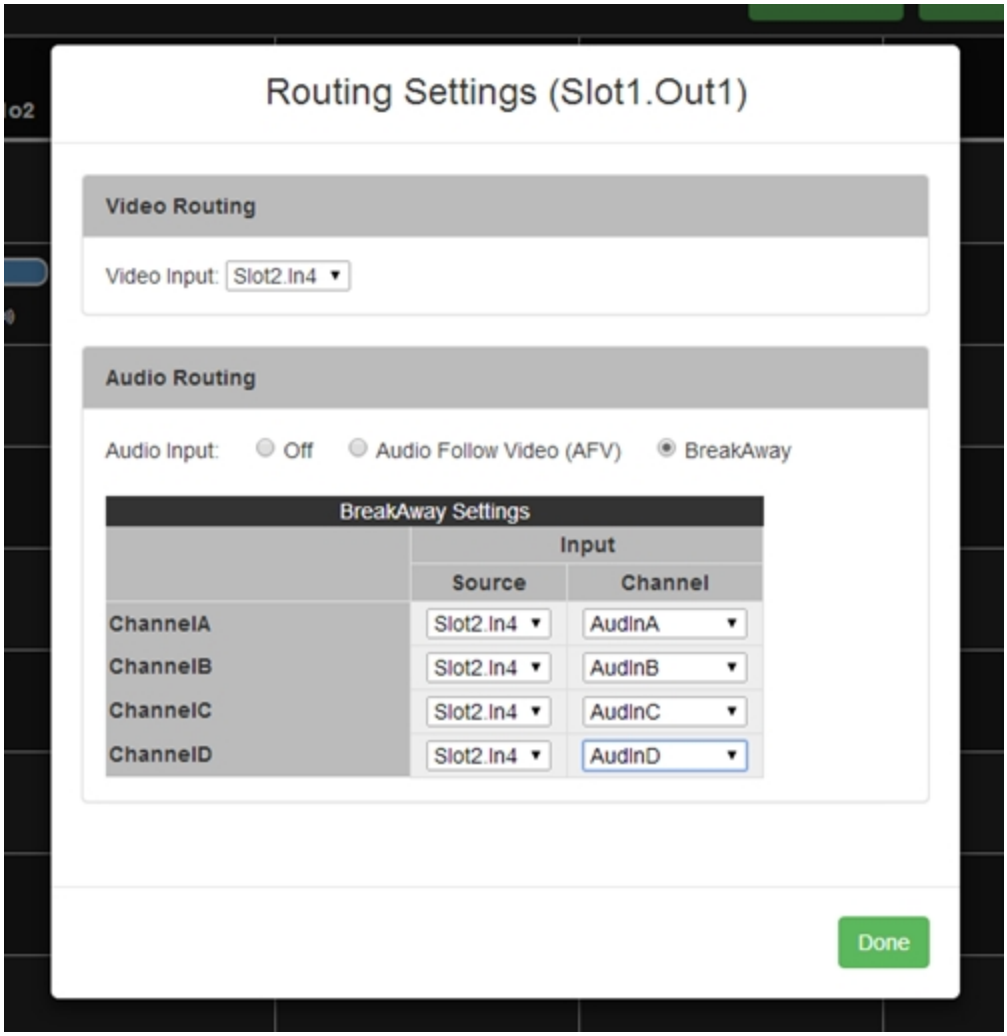
To configure **BreakAway**, follow these steps:

1. In the cell that shows the intersection between the desired input and desired output, click on the drop-down arrow.

2. In the resulting pop-up, choose **Configure...**



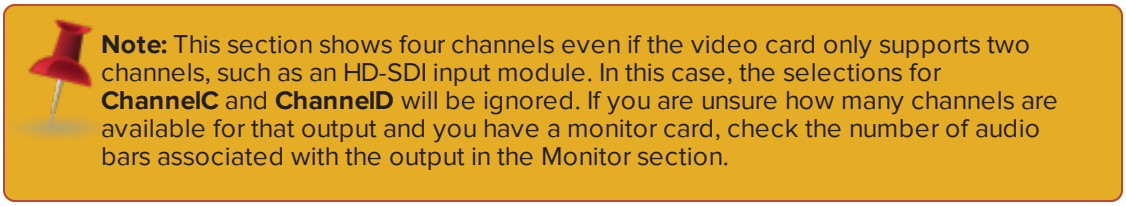
3. A window pops up



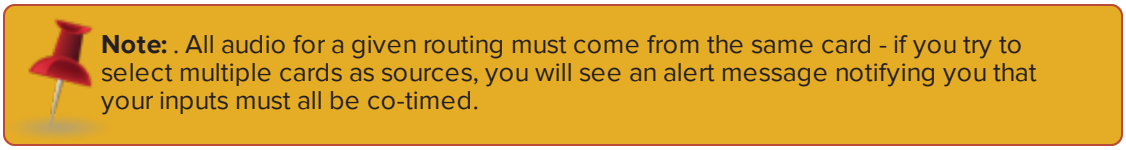
4. The upper section shows the video input that has been chosen to correspond to this output. The lower section shows the default audio configuration.
(If no audio configuration has been modified yet, the default setting is to route audio directly with video. If the input has been configured with AFV settings, the default shows the AFV settings that were defined in the input settings. These defaults can be overridden from this page.)
The four potential BreakAway audio channels are shown as **ChannelA**, **ChannelB**, **ChannelC** and **ChannelD**. To the right of each of these, you can choose an audio source from

any of your audio input options. Simply select the appropriate slot and input number in the first column and the appropriate channel from that card in the second column.

5. When you have configured all available audio channels as you wish, click the **Done** button in the bottom right corner. You are returned to the routing page.
   Be aware that, unlike the AFV settings (which are stored in connection with an input), BreakAway settings are specific to that output.



Note: This section shows four channels even if the video card only supports two channels, such as an HD-SDI input module. In this case, the selections for **ChannelC** and **ChannelD** will be ignored. If you are unsure how many channels are available for that output and you have a monitor card, check the number of audio bars associated with the output in the Monitor section.



Note: . All audio for a given routing must come from the same card - if you try to select multiple cards as sources, you will see an alert message notifying you that your inputs must all be co-timed.

Presets

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About Presets

What is a Preset?

A preset, at its simplest, is a saved routing configuration. Configure the routing table with the inputs and outputs that you wish - you can then save this as a Preset. Rearrange the routing, press Take and save again as another Preset. When you have multiple Presets saved, you can flip between Presets on-the-fly in your live environment.

Why would I use Presets?

Presets are useful if, for example, you want to do a presentation and swap between several pre-configured routing arrangements of your inputs and outputs. In this example, your first preset may be a single camera input shown on all displays, with audio from the camera as output. Your second preset may be a media presentation - some displays showing a presentation slide, some showing the original camera image, and audio coming from the presentation. You can configure all the different routing settings beforehand, save them as Presets, then swap between the saved Presets in real time simply by clicking on the name of the desired preset.

Create Preset

If you want to create a new Preset, follow these steps.

1. If you are in Synchronized mode, click the **Take** button to make sure the routing settings are applied.
2. In the routing wall's right-hand Preset pane, click the **New** button below any existing presets.

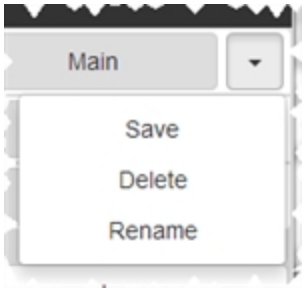
3. A new preset will appear at the bottom of the list of presets, named "presetx" where x is a number (incremented from the previous saved preset). You may want to immediately "Rename Preset" on page 136 to a more intuitive name.

Edit Preset

If you want to change the routing settings on an existing Preset, follow these steps.

1. If you are in Synchronized mode, click the **Take** button to make sure the routing settings are applied.
2. In the routing wall's right-hand Preset pane, click the drop-down icon to the right of the appropriate preset.

3. In the drop-down menu, choose **Save** from the list.



This will save the current configuration to the selected Preset.

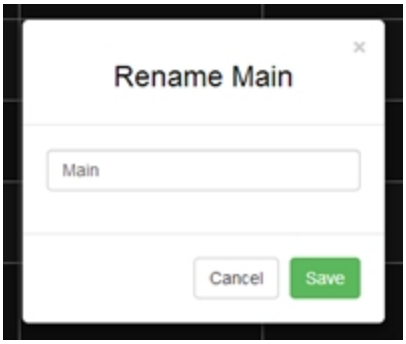
Rename Preset

If you want to rename an existing Preset, follow these steps.

1. In the routing wall's right-hand Preset pane, click the drop-down icon to the right of the appropriate preset.

2. In the drop-down menu, choose **Rename** from the list.

3. A window pops up. Click in the text field and type the new name for the preset.



4. Click the Save button. The window closes and the newly-renamed preset appears in the list in the Preset pane.

Delete Preset

If you want to delete an existing Preset, follow these steps.

1. In the routing wall's right-hand Preset pane, click the drop-down icon to the right of the appropriate preset.

2. In the drop-down menu, choose **Delete** from the list.

3. The selected preset disappears from the list of available presets in the Preset pane.

Caution: If you delete a preset, it cannot be retrieved unless you have backed up your data, and this is a complex recovery that is not outlined in this manual. Do not delete a preset unless you have no wish to retain that routing data.

Using Presets

If you have presets configured and saved, using them in a live environment is fairly straight-forward.

To load or activate a preset, click the button with that preset's name.

As soon as you have pressed the button, those settings become active (regardless of whether you are in **Immediate** or **Synchronized** mode).

Note: The button for an active preset turns green. If you change any settings from the saved configuration, the green color disappears, indicating that the live settings do not match a saved preset.

If you want to swap to a different preset, simply press the appropriate button for that preset. Swap between presets as many times as you need to do so. If you wish to cut all to black, see "Cut to Black" on page 117 for information.

Monitor

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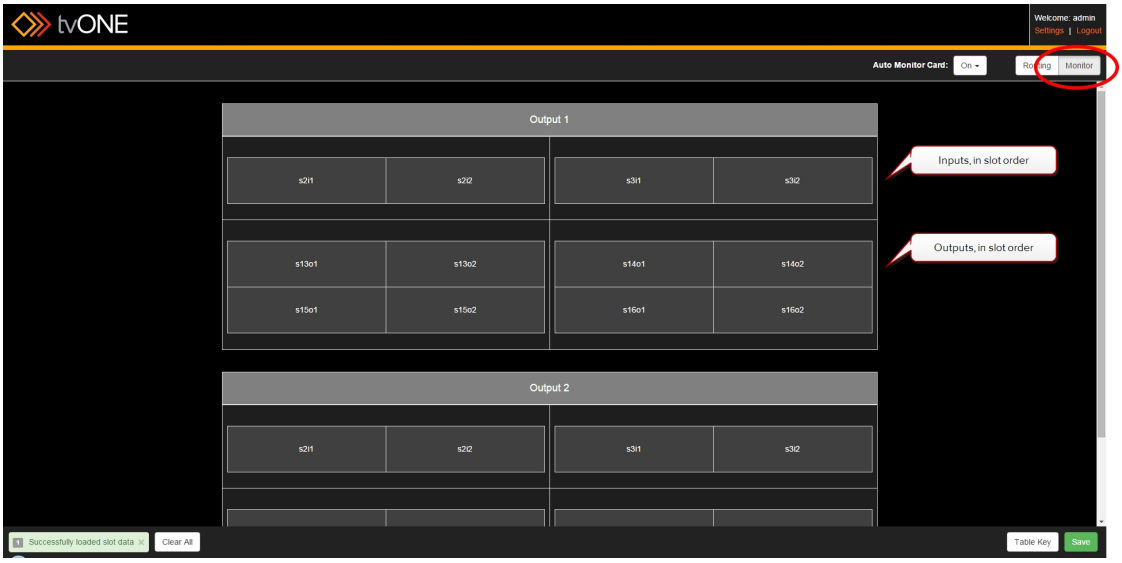
About Monitoring

If your CORIOmatrix has a monitor card installed, you can see a **Monitor** option in the top right corner of the Routing page. (If you do not see this button, you do not have a monitor card or it is installed incorrectly. The monitor card can be installed in any available slot on a CORIOmatrix mini; on a CORIOmatrix, it can be installed in any slot other than the top row.)



When the CORIOmatrix is in use, each small rectangle shows the video going through that input or output, and small green lines in the bottom left corner show audio channel activity.

Each input is shown in the top section, in order, with slot 1 input 1 at the top left, continuing across and then down. Outputs are shown in the lower half, similarly ordered. (Output 1 and Output 2 show exactly the same content.)

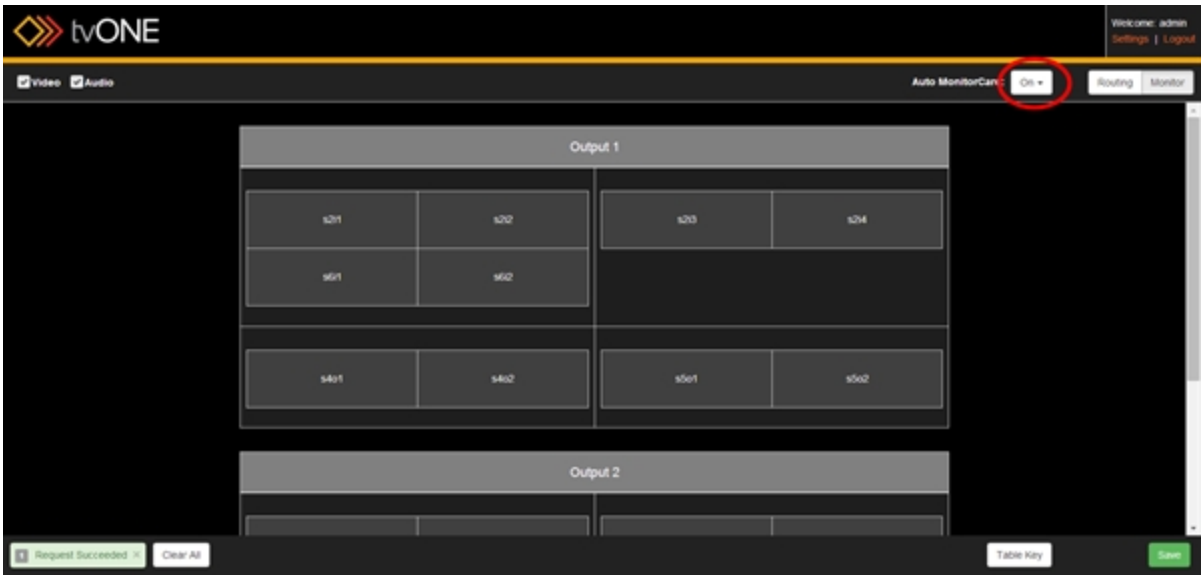
From the Monitor page, you can observe the content coming in to the inputs and the content going out through the outputs. If you wish to change anything, use the Routing page to reassign the routing.

To return from the Monitor settings to the Routing page, click on the Routing button in the top right corner.

More information:

- "Auto MonitorCard settings" on the facing page
- "Monitoring Audio" on page 152

Auto MonitorCard settings



If you have upgraded an older CORIOmatrix which has a custom monitoring configuration saved, select **Off** in the **Auto MonitorCard:** dropdown at the top, and follow the instructions in "Restoring Previous Settings" on page 49 to ensure that your previous monitor card configuration is available.

Prior to version 2.0.0 of the CORIOmatrix web control software, the only configuration available was the automatic configuration of monitor settings. Beginning with version 2.0.0, there are various ways you can configure monitoring, by changing **Auto MonitorCard** to **Off**, and configuring it as described in "Auto MonitorCard Off - Setup" on page 148.

Caution: If you turn **Auto MonitorCard Off** and configure settings as you desire, do NOT toggle the **Auto MonitorCard** settings **On** and **Off** again, as your settings will be lost. In this case, the only way to recover would be to restore from a previously-saved configuration.

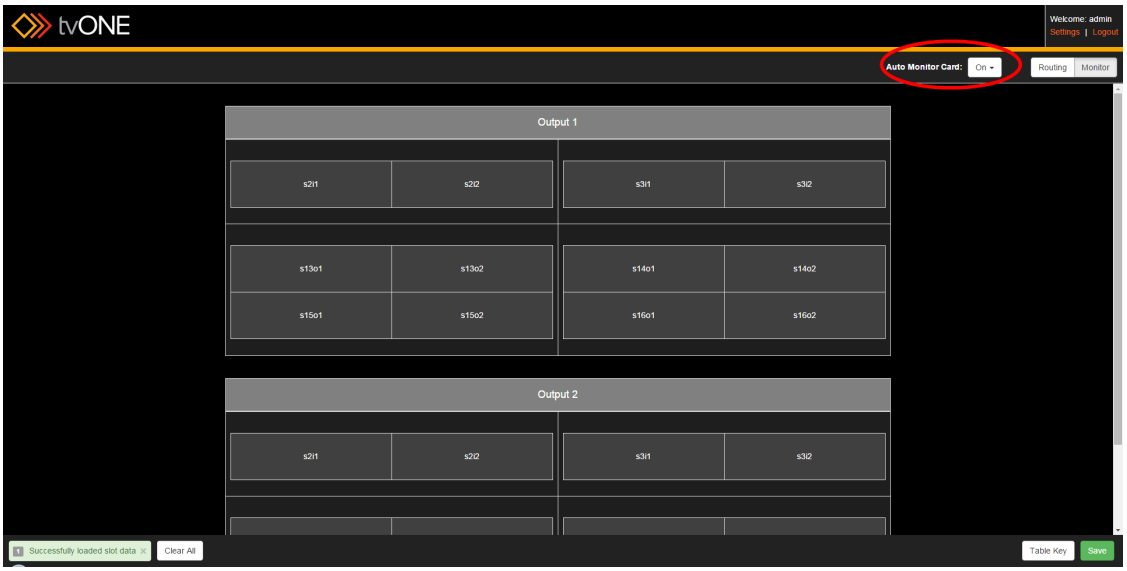
Auto MonitorCard On for Quick Monitoring

By default, the **Auto MonitorCard** setting is **Off**, and you can configure your monitor to show your inputs and outputs in a variety of configurations.

If you want to be able to monitor your inputs and outputs quickly with a minimum of configuration, you can enable the **Auto MonitorCard** feature from the drop-down list by choosing **On**.

Caution: Turning this feature on overwrites any settings you already have, so only enable this feature if you are prepared to lose anything you have configured in the Monitor Card pane.

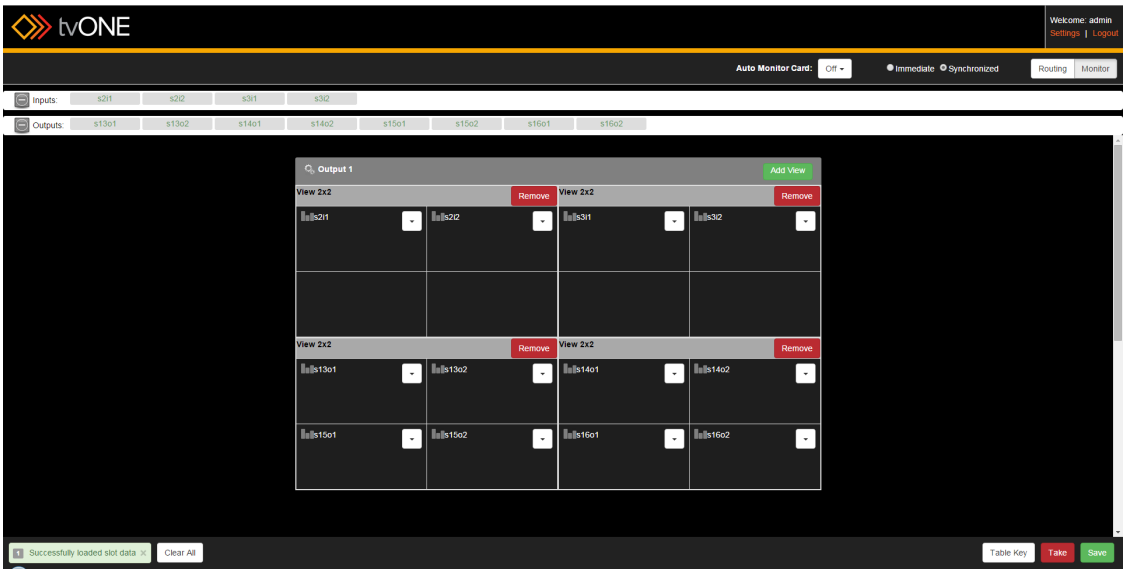
When you set **Auto MonitorCard** to **On**, the web interface immediately displays a grid with all detected inputs and outputs shown sequentially.



This view is useful if you want quick and instant feedback showing all inputs and outputs, without wanting to finesse the location of each, so this option is not modifiable - if you want to customize your view, set **Auto MonitorCard** to **Off**.

Auto MonitorCard Off - Overview

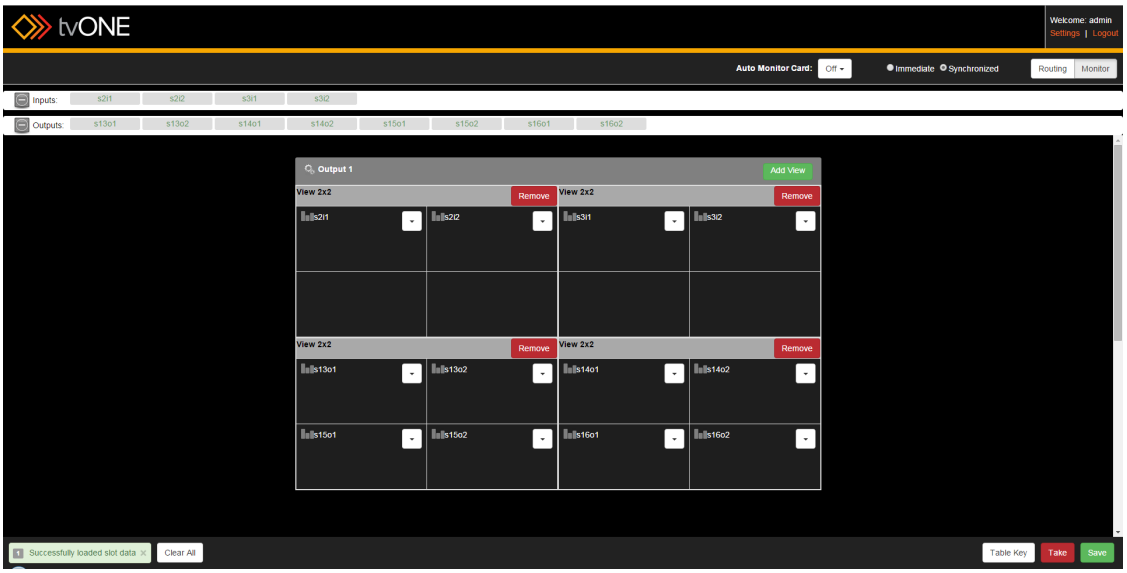
By default, the **Auto MonitorCard** setting is **Off**, and you can configure your monitor to show your inputs and outputs in a variety of configurations.



There are two outputs, to match the two output connectors on the monitor card. By default, the second output display duplicates the first. If you wish to use both output displays with unique content, uncheck the box and configure the second output appropriately.

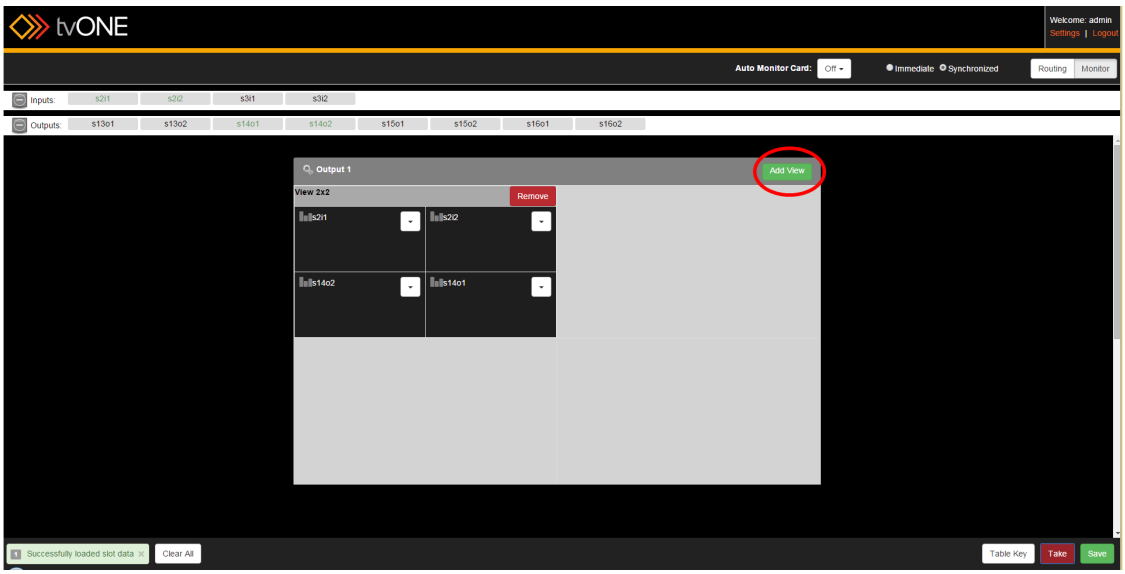
Note: Be aware that any given input or output in the CORIOmatrix can only be displayed once on the monitors - the second display cannot "re-use" any inputs or outputs already in use on the first.

Auto MonitorCard Off - Setup



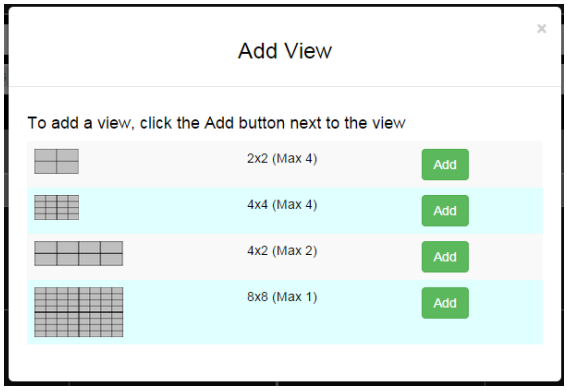
Add Views

To begin configuring your monitor view, click the **Add View** button to choose a view option.



Options are 2x2, 4x4, 4x2, or 8x8.2x2 and 4x4 views only take up a quarter of your overall output - you can add other views to different quadrants and drag-and-drop to rearrange them as you wish. The maximum number of a given view is listed in the pop-up window.

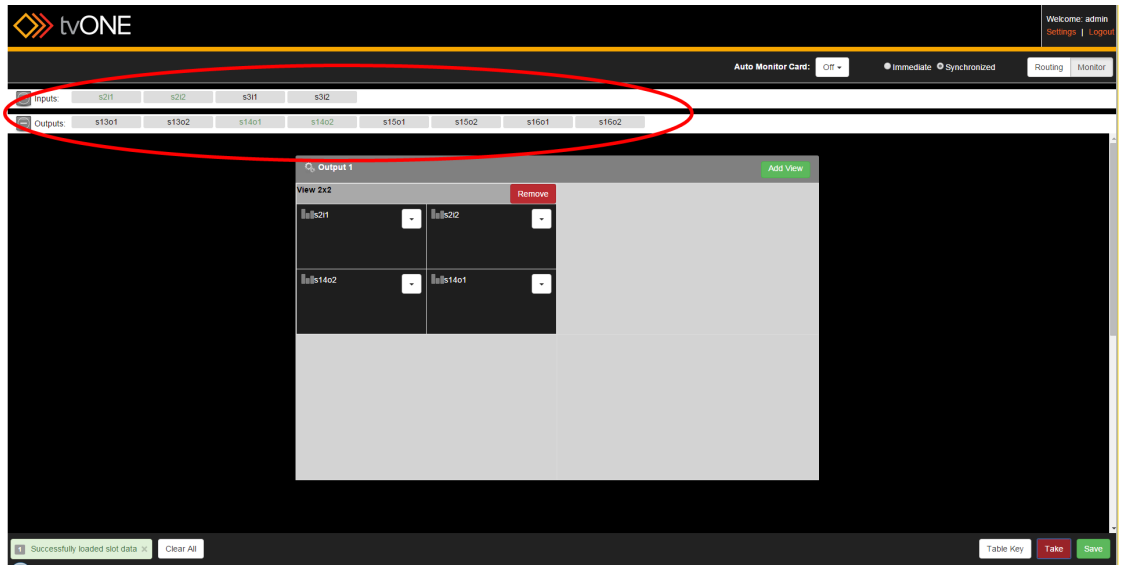
(4x2 views take up half of the screen horizontally, and are put into the first available horizontal half. 8x8 views take up the entire screen.)



Populate Views

Once you have the framework set up, you can start adding inputs and outputs to the grid. Simply drag-and-drop whichever item you wish from the Inputs and Outputs lines at the top into the grid space you wish. If you change your mind, you can drag the item backwards and forwards between grid spaces.

The Inputs and Outputs at the top show each item by card and slot number. When the input or output is being used in a view, it shows green in the list, to indicate that it is already being used and is thus unavailable to add. When the input or output is not yet assigned to a view, it appears in black - these ones can be dragged to a view.



Options

For each input or output that is in a View grid, a drop-down button provides two options.

Remove

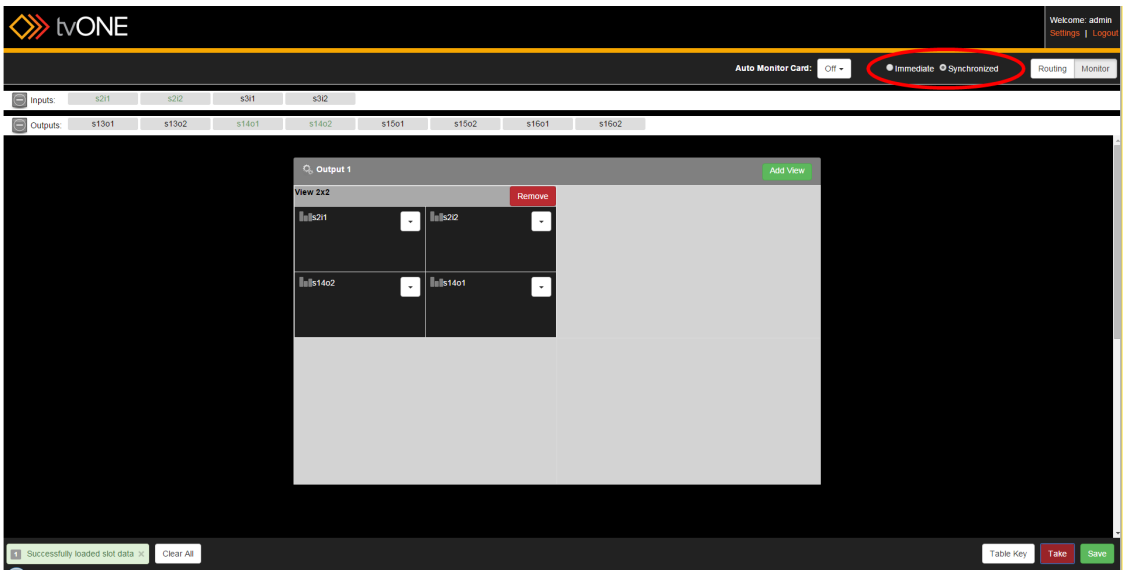
The first option, **Remove**, uncouples the input or output from that grid and makes it black (available) from the Inputs or Outputs list at the top of the window. The corresponding space in the grid goes blank, meaning that an input or output can now be assigned to that space.

Audio Bars

The second option, **Audio Bars**, allows you to toggle between having the audio bars visible or not visible. See "Monitoring Audio" on page 152 for more information.

Immediate vs Synchronized

Similar to the Routing page, the Monitoring page has two modes - **Immediate** and **Synchronized**. The Monitoring page settings are not related to the Routing settings, so you do not have to use the same mode in both situations.



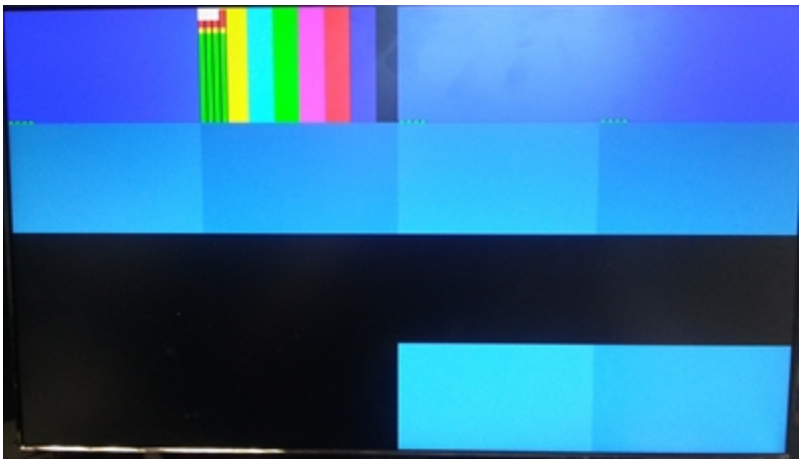
In **Immediate** mode, any action you take is committed individually by the web interface. Each step is live as soon as it has been committed.

Caution: If you are changing from **Synchronized** to **Immediate** mode and you have queued steps in **Synchronized** mode, be sure to click **Take** before changing to **Immediate** mode, as any uncommitted changes will be abandoned when changing to Immediate mode.

In **Synchronized** mode, actions are only committed when you initiate a **Take**. You can queue up a number of changes and commit them all at once by making multiple changes before pressing the **Take** button. In this mode, be sure to click the **Take** button before you refresh, disconnect or otherwise abandon your changes.

If you decide to abandon your changes, use the **Revert** button to remove queued commands and refresh the Monitoring page to your current live configuration.

Monitoring Audio



When you are monitoring your inputs and outputs, you can see the video signals in real-time on each input and output. On the display you are using to see the monitor card output, you can see the embedded audio visually monitored in the corner of its associated video.

To indicate audio tracks, each video stream on the display has small green lines in the bottom left corner as a live audio meter indicating number of channels and level of each channel. If audio is going through that input or output, the green lines increase and decrease vertically as each channel's levels vary.

HD-SDI cards provide two audio channels; others provide four. The monitor card will indicate the number of channels available from your particular card by either showing two or four bars. (This may not be reflected in the Routing page - if there is a discrepancy between number of channels in the Routing page and number of channels in the Monitor page, the Monitor page is correct.)

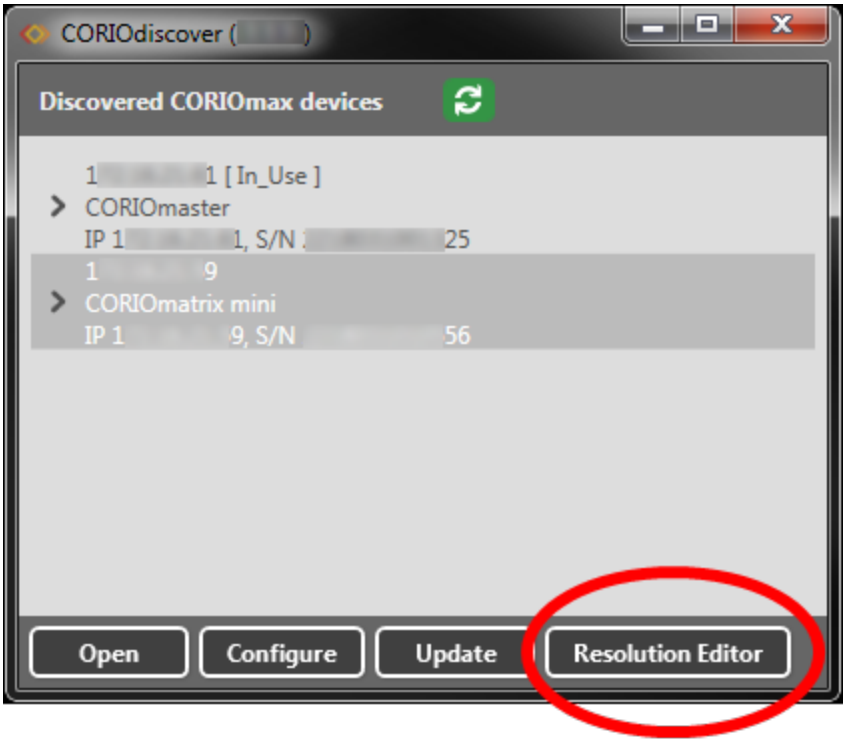
Resolution Editor Guide

Resolution Editor

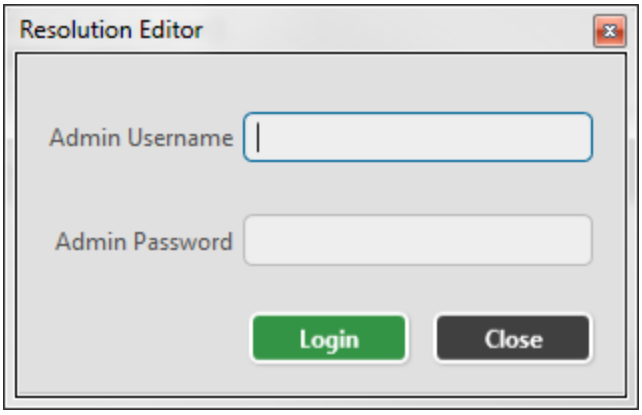
Beginning with version 2.0.0, the CORIOdiscover application includes a Resolution Editor.

1. Start the CORIOdiscover application:

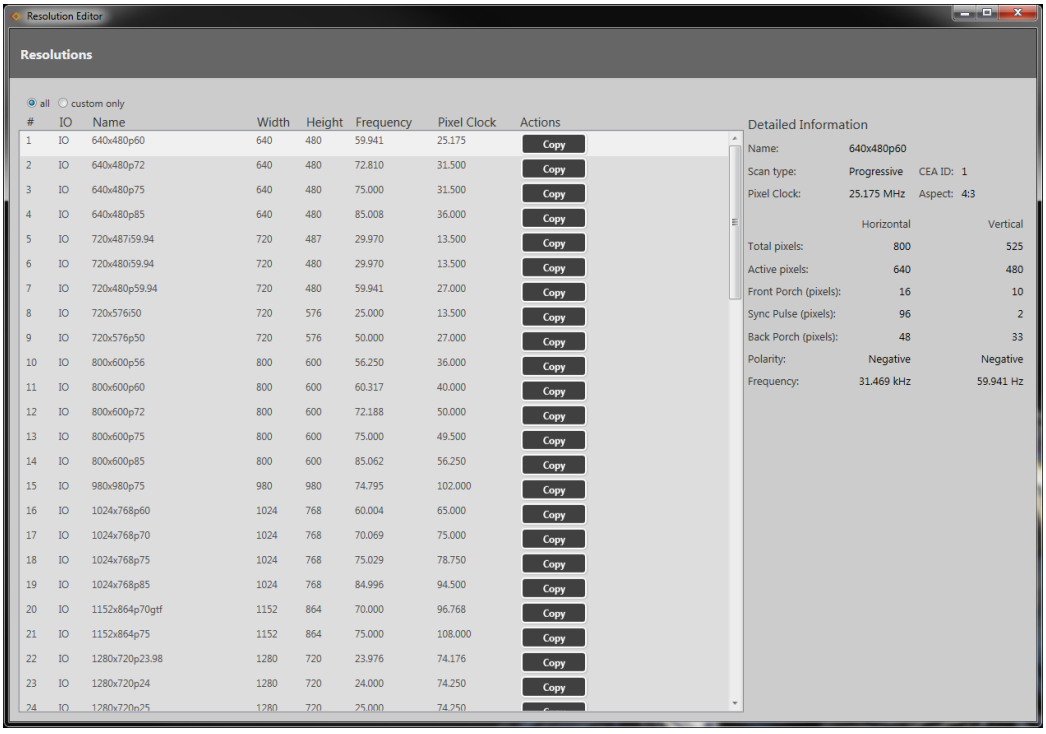
2. Select the target device (the one you want to have the Custom Resolution) and press the **Resolution Editor** button.



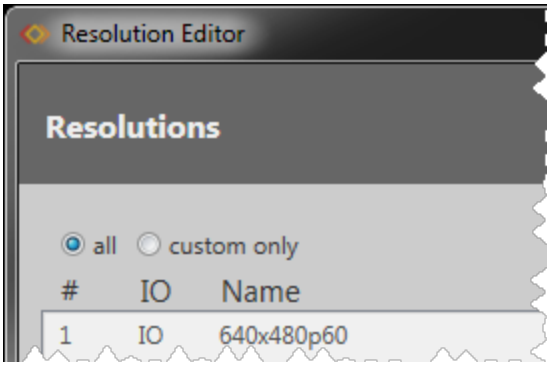
3. Enter the Administrator username and password for the unit:



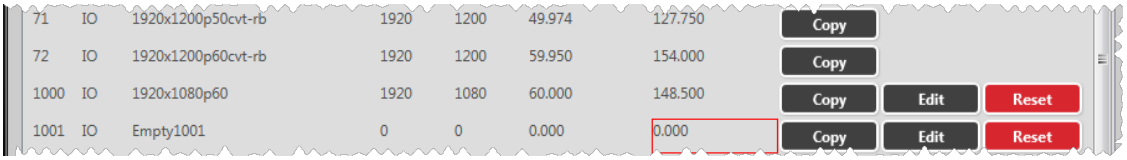
4. Once you have successfully logged in you see the Resolution Editor main window:



5. By default the Resolution Editor shows all resolutions, both built-in and custom. Scroll to the bottom of the list or select the **Custom Only** radio button to see the Custom Resolutions:



Note that built-in resolutions only have a **Copy** option, while Custom Resolutions have **Copy**, **Edit** and **Reset** buttons.



For more details, see "Listing Resolutions from CORIOdiscover Resolution Editor" on page 159.

Resolution Editor Overview

The CORIOmax series (CORIOmaster, CORIOmaster mini, CORIOmatrix and CORIOmatrix mini) supports a vast majority of standard video resolutions, both broadcast and computing, as well as certain non-standard resolutions. These include the more commonly used resolutions from the following standards:

- CEA-861-D
- VESA CVT
- VESA GTF
- VESA DMT

In addition, you can add up to ten further Custom Resolutions either from the CORIOdiscover software (see "Resolution Editor" on page 154) or via command line (see "Command Line - Resolutions" on page 238).

Resolution Editor Constraints

Custom Resolution support and the CORIO**discover** Resolution Editor is available from firmware version M306 onwards.

Custom Resolutions cannot be used with SDI input or outputs.

The unit can save a maximum of ten Custom Resolutions.

The Custom Resolutions are definable within the following constraints:

- all numeric values are in pixels unless otherwise stated.
- all numeric values are positive integers or zero.
- string values may not contain spaces.
- string values may only be valid printable ASCII characters.
- string values are limited in the number of characters they may contain.

Custom Resolutions do not support:

- borders (any required border values must be included in the front and back porches).
- the pixel clock is limited to the following range:
    - 13.5MHz to 162MHz
- The value for the Active Video must not be zero.

Interlaced Custom Resolutions require that:

- the vertical front and back porches are twice the even field.
- the vertical sync pulse is twice the even value.

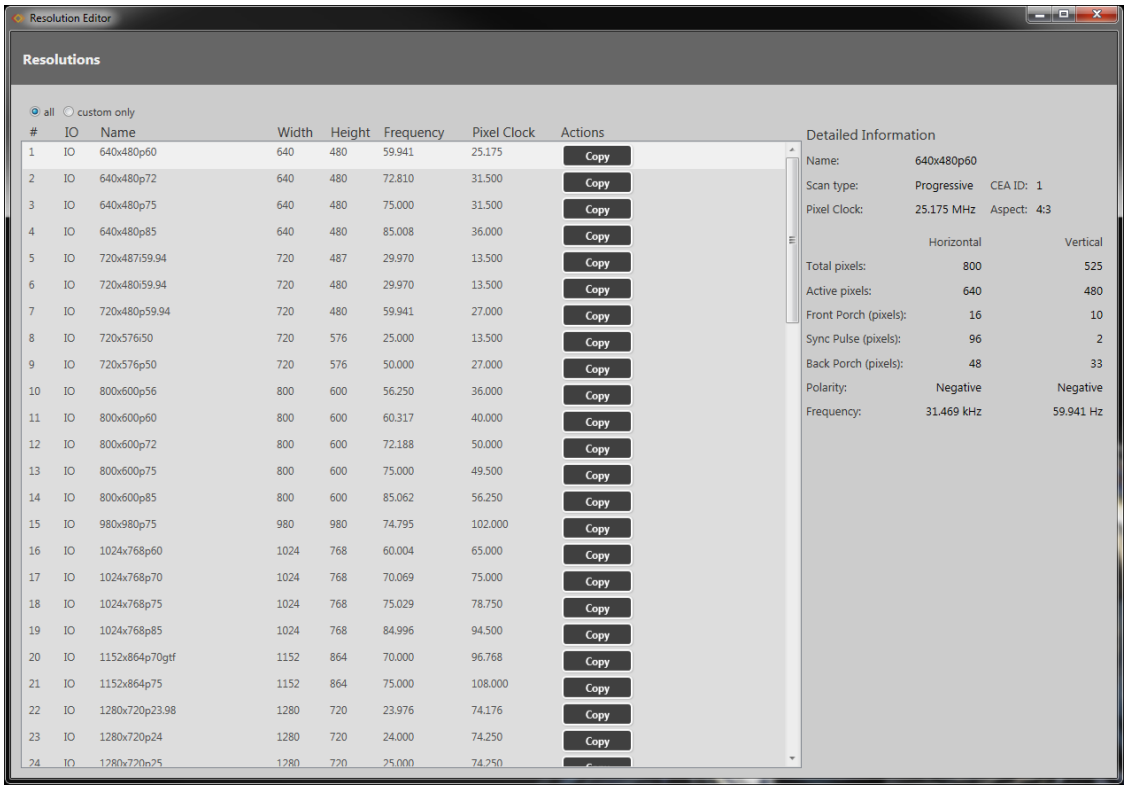
The CEA identifier information option (CEAID) does not affect the Custom Resolution - it is there for providing attached equipment with information on the resolution. Only set this value when defining a Custom Resolution that complies with the CEA profile for that value.

Note: The unit might not display an image if the CEAID is non-zero and the Custom Resolution does not conform to the CEA format for that value.

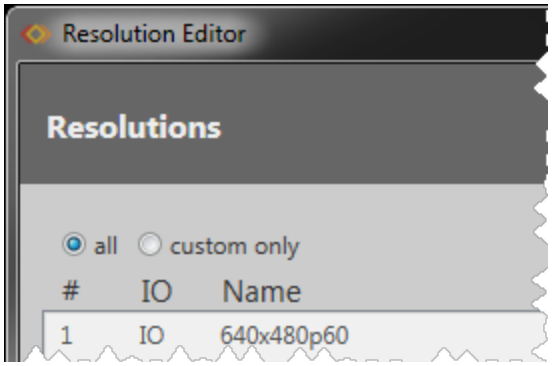
Custom Resolutions become persistent after using the `System.SaveAllSettings()` operation.

Listing Resolutions from CORIOdiscover Resolution Editor

To list the available built-in and Custom Resolutions from CORIOdiscover, access the main Resolution Editor window. From this window, you can see a list of all built-in and custom resolutions.



By default the Resolution Editor shows all resolutions, both built-in and custom. Scroll to the bottom of the list or select the **Custom Only** radio button to see the Custom Resolutions:



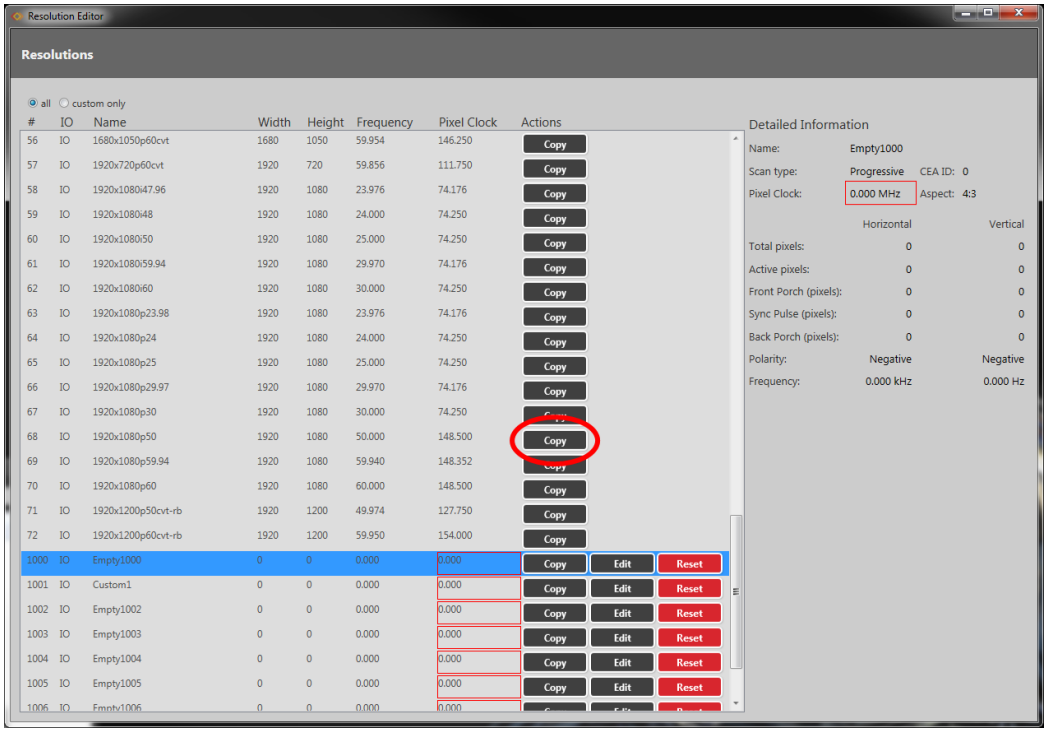
For each resolution, you can see the resolution number, **Name**, **Width**, **Height**, **Frequency**, and **Pixel Clock**. This information should be sufficient for you to identify the specific resolution you are looking for.

If you want more details of a given resolution, click on that line and the **Detailed Information** pane on the right will list all available properties of the resolution including the name of the resolution, the **Scan Type**, **Pixel Clock**, and both **Horizontal** and **Vertical** values for **Total pixels**, **Active pixels**, **Front** and **Back Porch**, **Sync Pulse**, **Polarity** and **Frequency**.

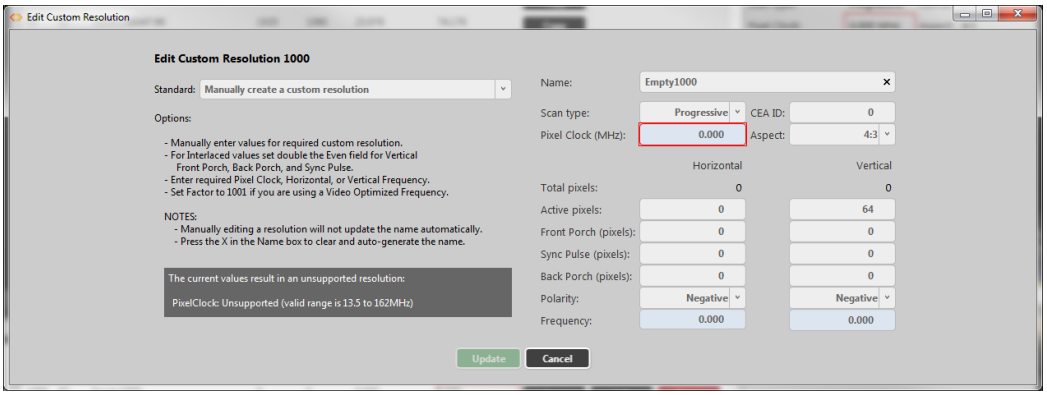
Creating a Custom Resolution From a Built-In Resolution

The simplest way to create a Custom Resolution is to base it on an existing resolution, and change only the parameters that vary.

1. Select the existing resolution that most closely matches your desired resolution and press the **Copy** button:

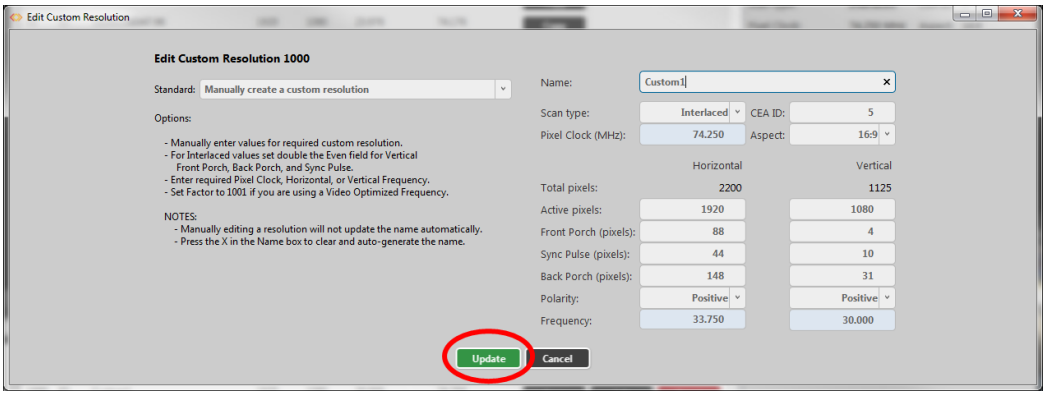


2. In the resulting Edit Resolution window, enter a meaningful name for your Custom Resolution and change the other fields as required. (If you are going to use your Custom Resolution with CORIOgrapher, be sure to read the notes regarding naming at "Editing Name Property from CORIOdiscover Resolution Editor" on page 173.)



For more information on the individual fields, see the individual topics in the rest of this section.

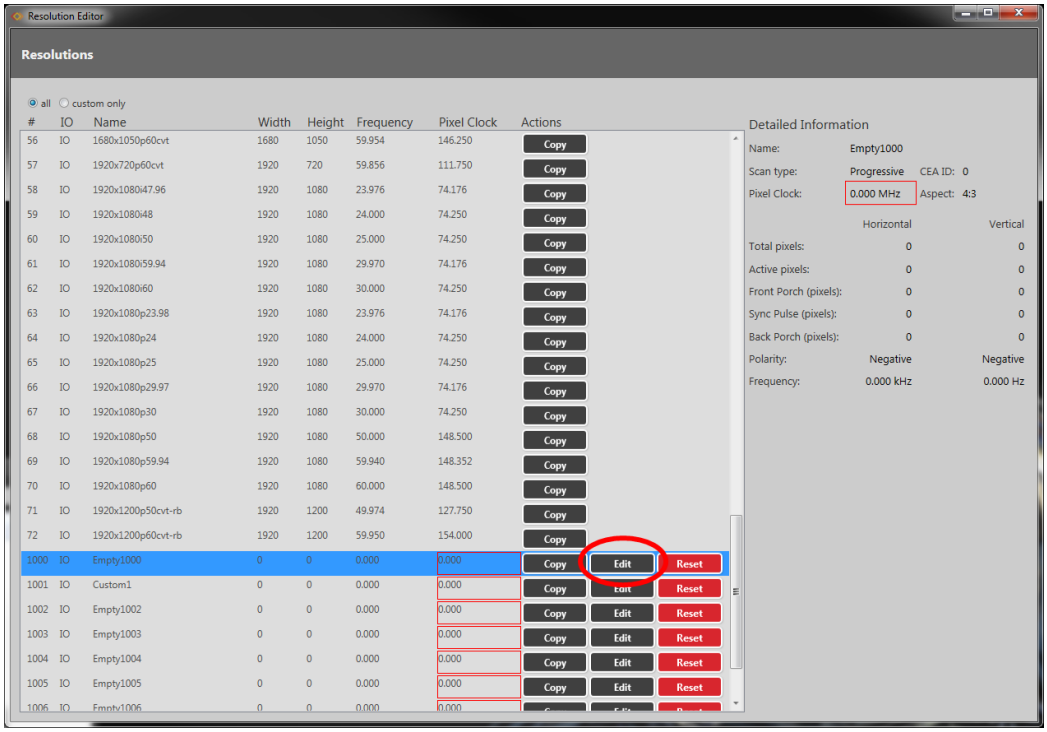
3. When you have finished configuring the fields, click the **Update** button and the new Custom Resolution will be placed in the next available (empty) Custom Resolution.



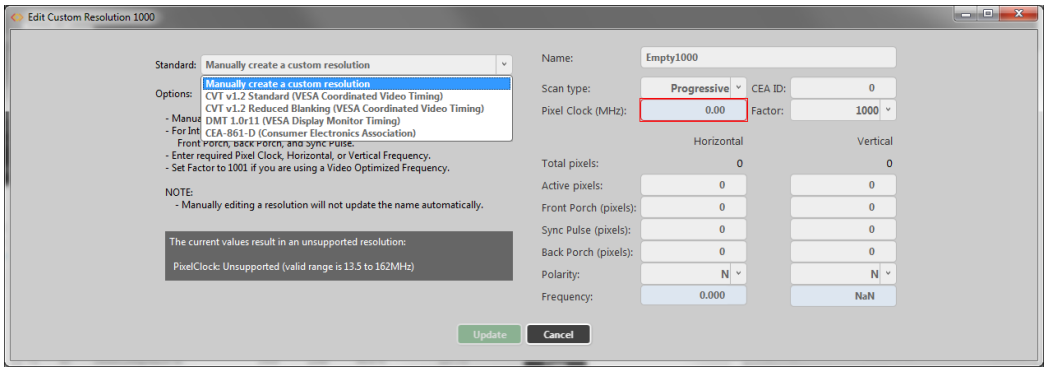
Creating a Custom Resolution From a Standard

If you want to create a Custom Resolution based on a video standard, such as CVT, follow these steps:

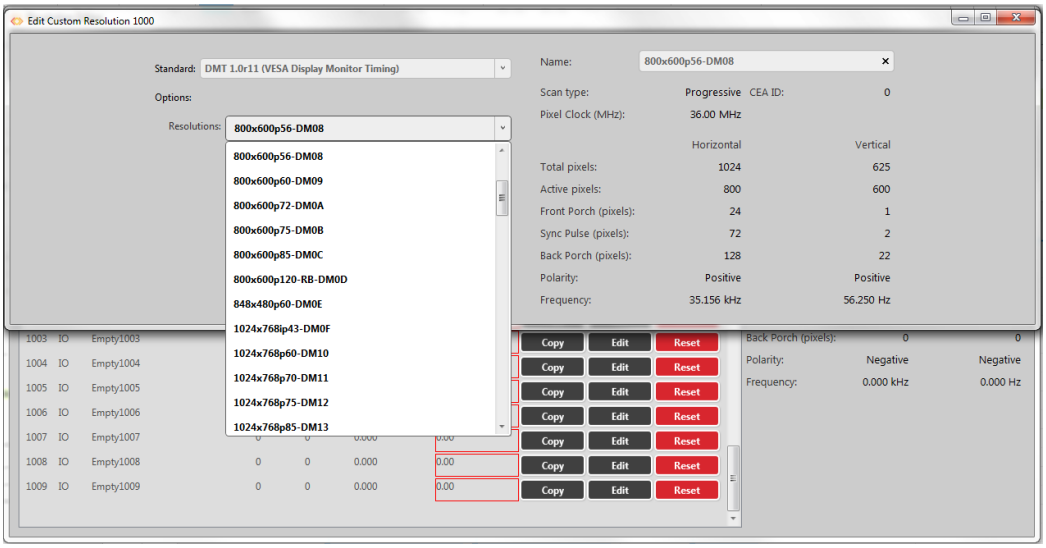
1. Select an empty Custom Resolution, and click the **Edit** button.



2. In the resulting Edit Resolution window, choose the appropriate **Standard** from the drop-down list of options.

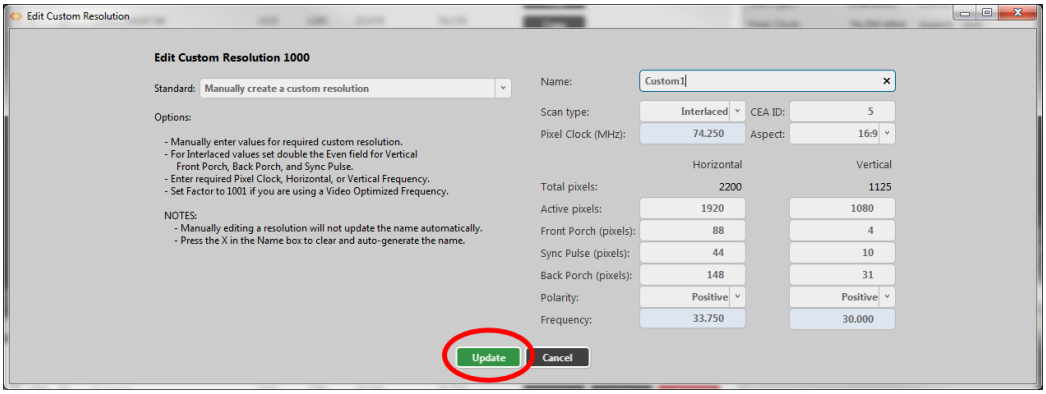


3. Choose the appropriate Resolution from the drop-down list of options.



4. Enter a meaningful name for your Custom Resolution and change the other fields as required. (If you are going to use your Custom Resolution with CORIOgrapher, be sure to read the notes regarding naming at "Editing Name Property from CORIOdiscover Resolution Editor" on page 173.) For more information on the individual fields, see elsewhere in this manual.

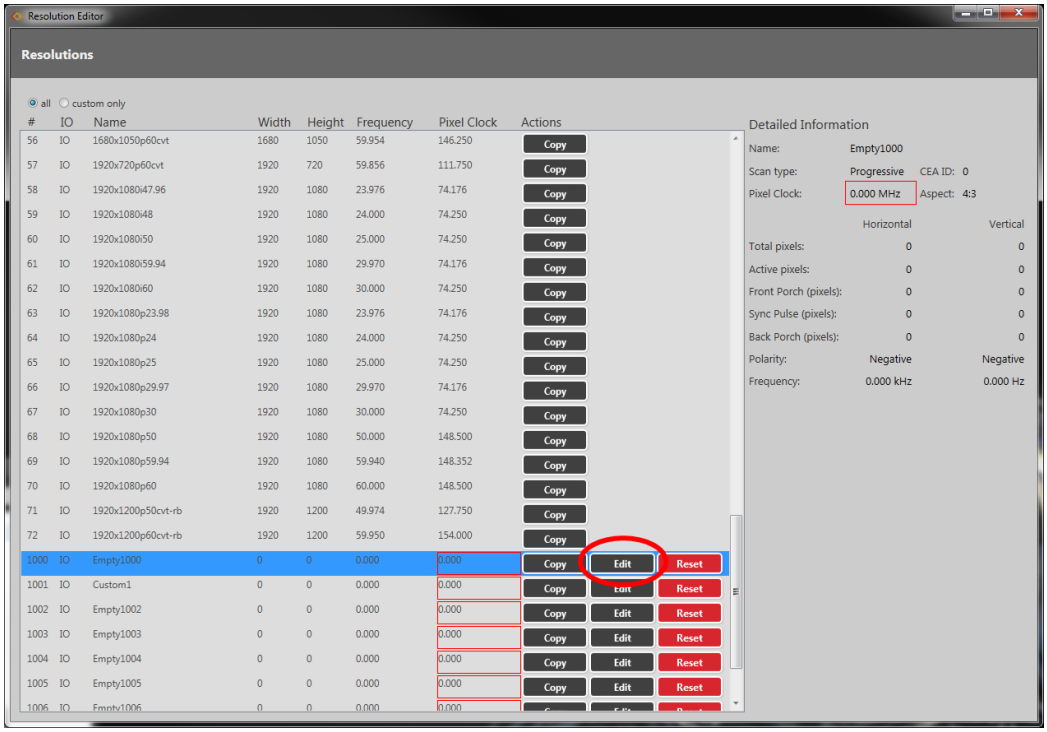
5. When you have finished configuring the fields, click the **Update** button and the Custom Resolution will be saved in the Custom Resolution slot you chose in step 1.



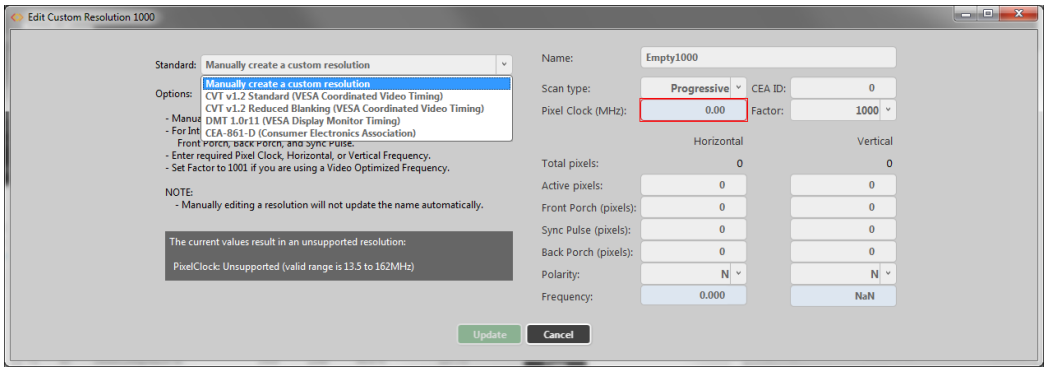
Creating a Custom Resolution From Scratch

If you want to create a Custom Resolution that isn't based on a standard or an existing custom resolution, follow these steps.

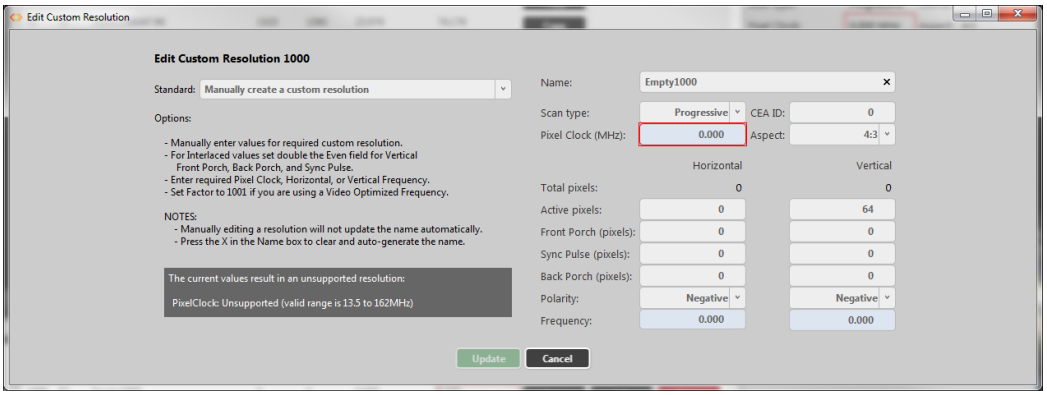
1. Select an empty Custom Resolution, and click the **Edit** button.



2. In the resulting Edit Resolution window, be sure that **Manually create a custom resolution** is selected from the **Standard** drop-down list.

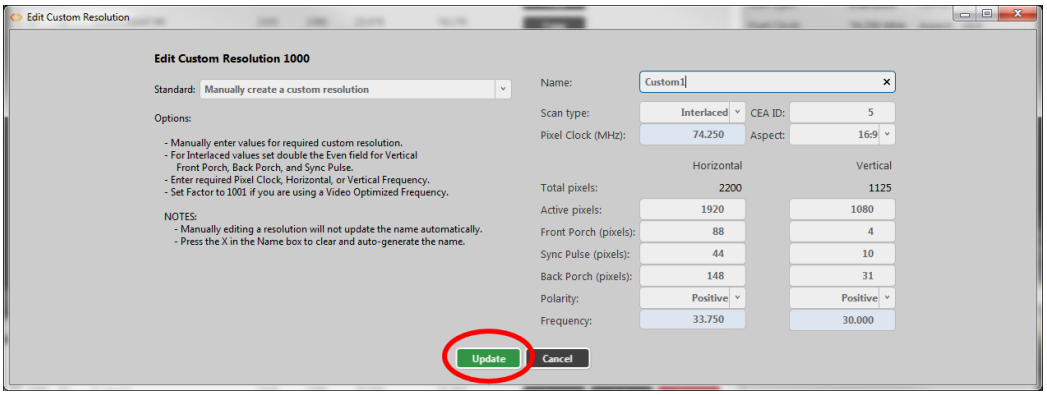


3. Enter a meaningful name for your Custom Resolution and change the other fields to match your requirements. (If you are going to use your Custom Resolution with CORIOgrapher, be sure to read the notes regarding naming at "Editing Name Property from CORIOdiscover Resolution Editor" on page 173.)



For more information on the individual fields, see elsewhere in this manual. Note that some fields must be updated to appropriate values before you can save the resolution.

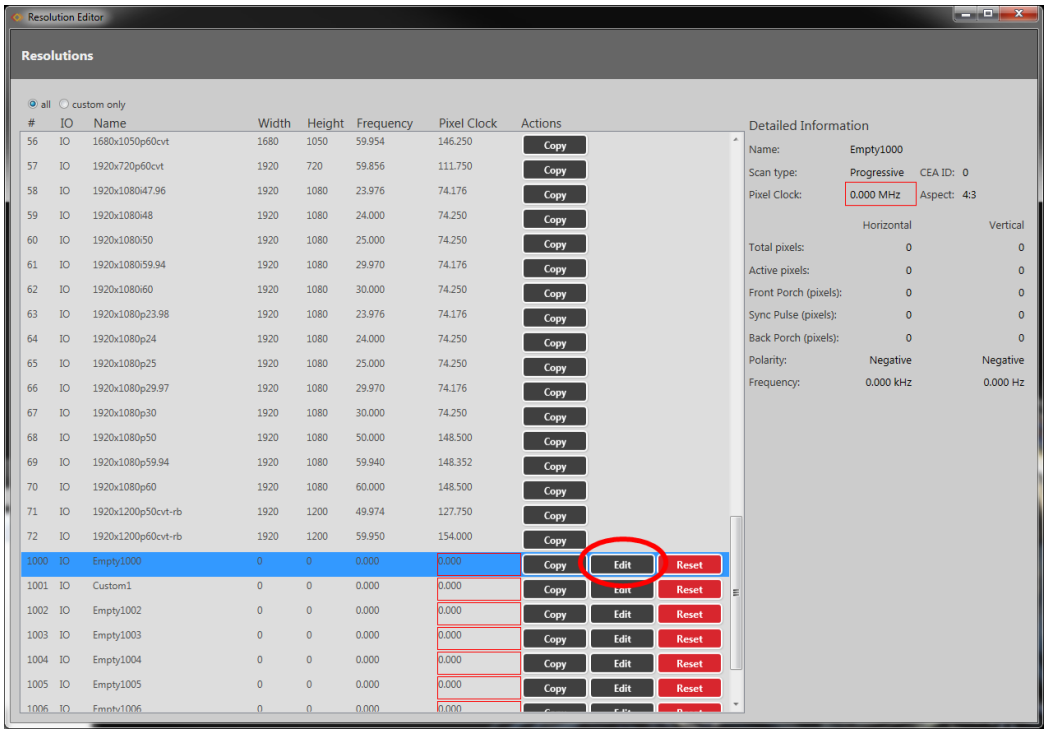
4. When you have finished configuring the fields, click the **Update** button and the Custom Resolution will be saved in the Custom Resolution slot you chose in step 1.



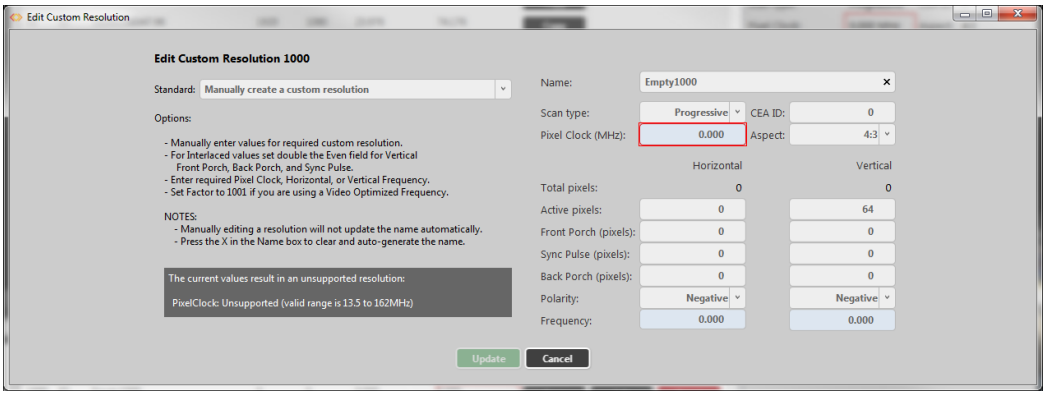
Editing an existing Custom Resolution

To edit an existing Custom Resolution:

1. Select the Custom Resolution and press the **Edit** button:

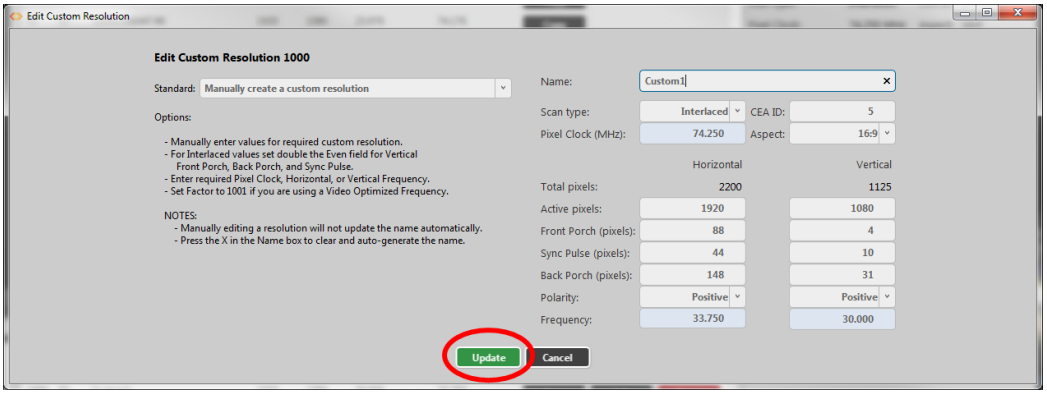


2. In the resulting Edit Resolution window, change the fields as required. (If you are going to use your Custom Resolution with CORIOgrapher, be sure to read the notes regarding naming at "Editing Name Property from CORIOdiscover Resolution Editor" on page 173.)



For more information on the individual fields, see elsewhere in this manual.

3. When you have finished configuring the fields, click the **Update** button and the Custom Resolution will be saved in the same Custom Resolution slot you chose in step 1.



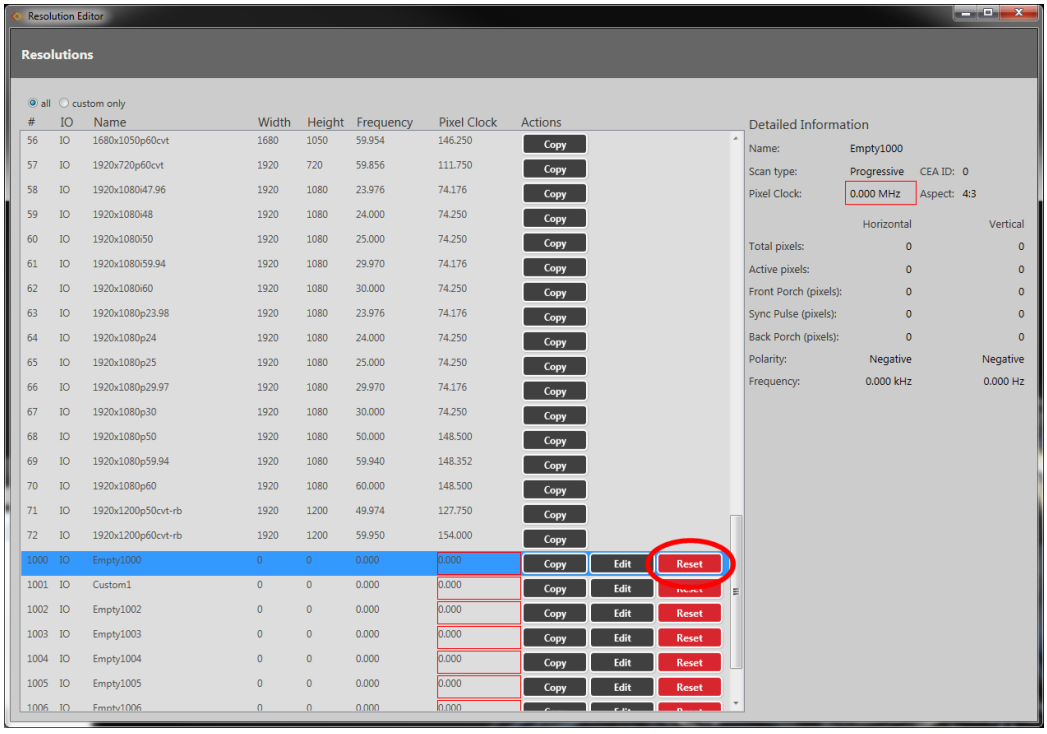
Note: If the Custom Resolution is active on an output, your changes will take effect immediately after you press the **Update** button, with the exception of the **Name**. If you change the **Name** attribute of a Custom Resolution that you have already set to an output, the output will revert to the default built-in resolution for that output. To continue using the same Custom Resolution with that output, re-apply it to the output.

Clearing or Deleting an existing Custom Resolution

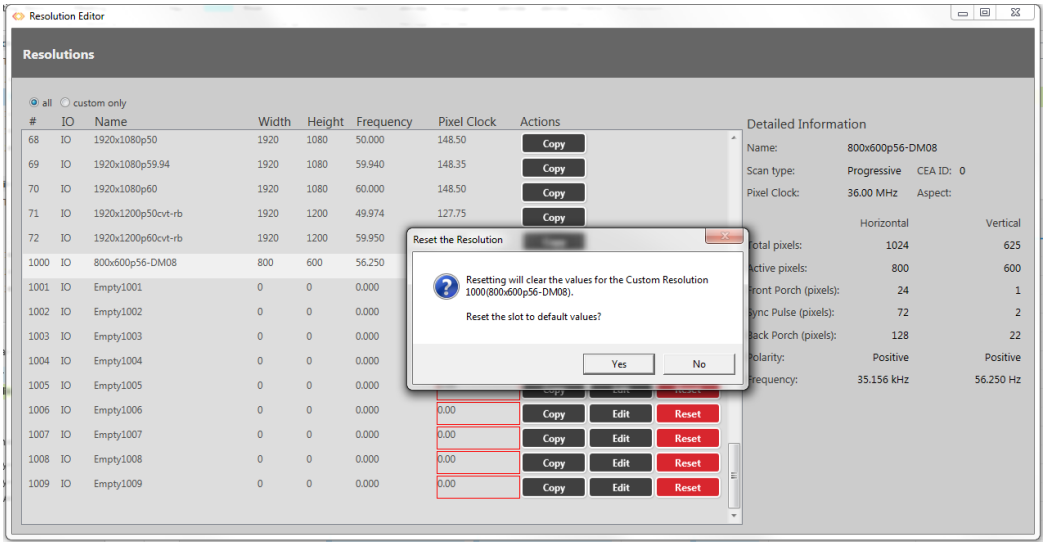
Custom Resolutions can only be modified; they cannot be created or deleted. If you wish to remove saved details, **Reset** the Custom Resolution to default settings. This is equivalent to deleting, but the slot is still available for future use.

To clear a Custom Resolution:

1. Select the Custom Resolution and press the **Reset** button.



2. A pop-up window appears, asking you to verify that you want to erase all the data for this resolution. Click **Yes**, if you do wish to clear the Custom Resolution.



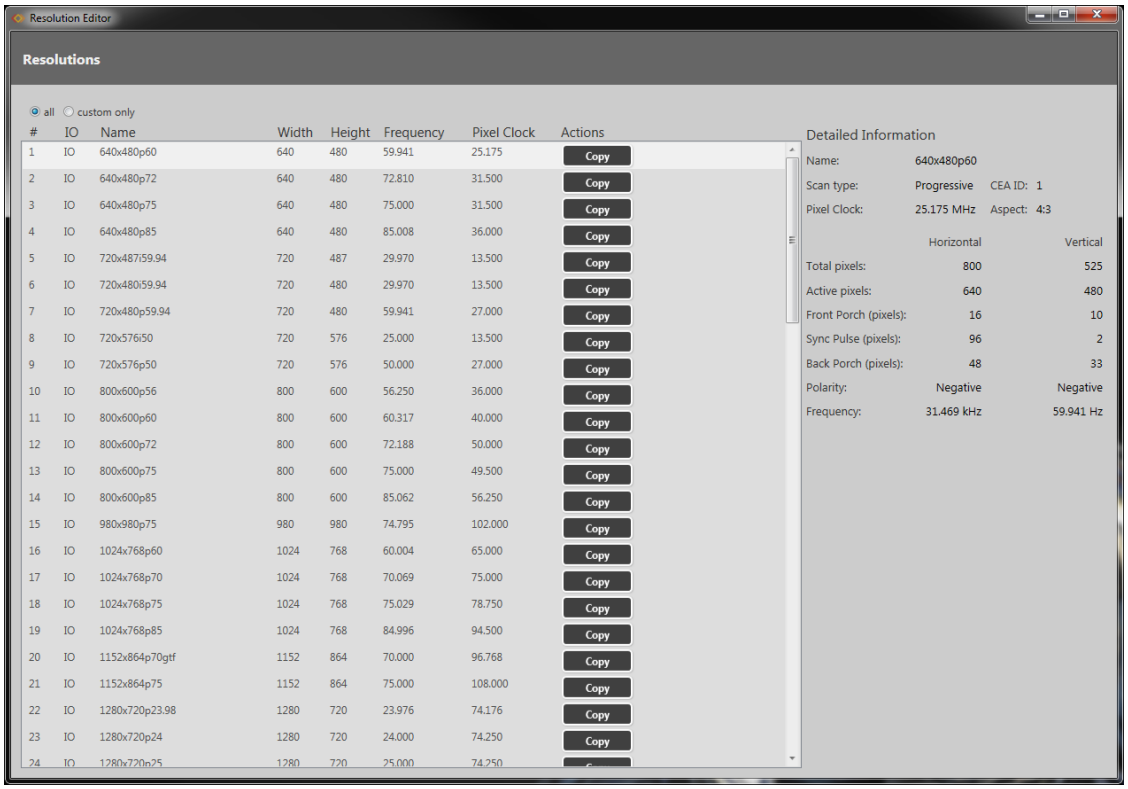
3. In the Resolution Editor, that Custom Resolution now appears empty, with values reset to default.

Note: If you clear a Custom Resolution that you have already set to an output, the output will revert to the default built-in resolution for that output.

Listing Resolution Properties from CORIOdiscover Resolution Editor

The **Detailed Information** pane is on the far right of the Resolution Editor window. This pane displays information about the highlighted resolution.

Built-in resolution details are read-only; custom resolution details can be edited.



In this pane, you can view information including the name of the resolution, the **Scan Type**, **Pixel Clock**, and both **Horizontal** and **Vertical** values for **Total pixels**, **Active pixels**, **Front** and **Back Porch**, **Sync Pulse**, **Polarity** and **Frequency**.

Editing Resolution Properties from CORIOdiscover Resolution Editor

Various details specific to a resolution are saved on a per-resolution basis. You can edit settings for Custom Resolutions. Each property is covered separately.

Editing Name Property from CORIOdiscover Resolution Editor

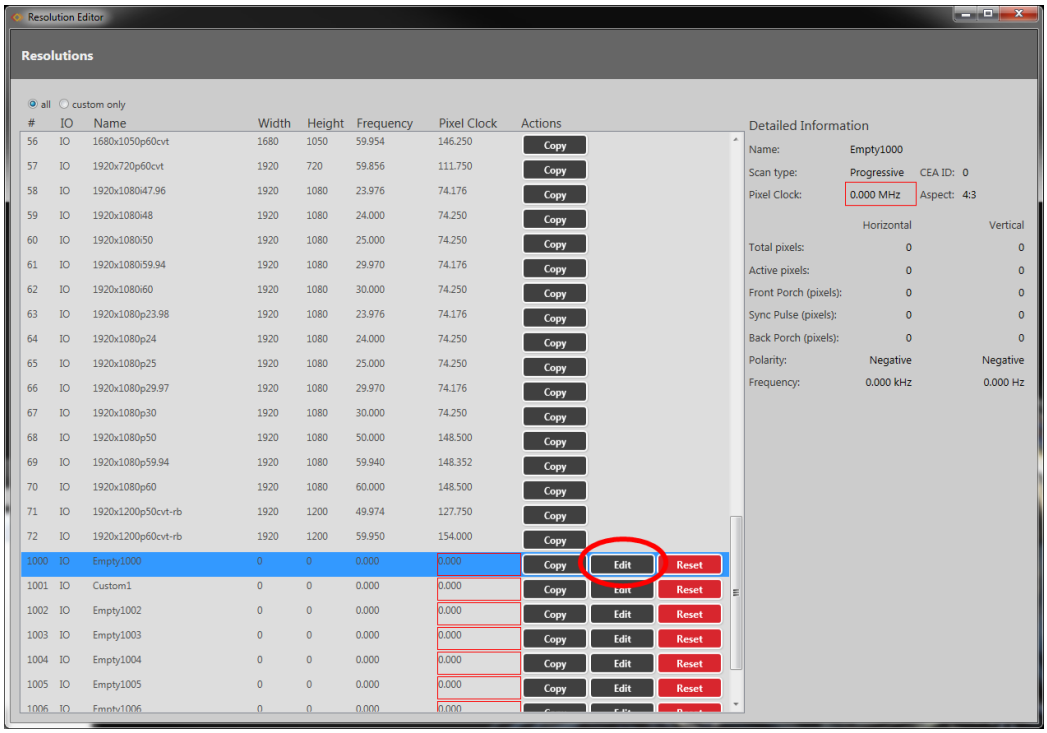
Learn how to set a name for a Custom Resolution via the Resolution Editor in CORIOdiscover.

Description

Lists the user-readable name for this resolution. Set up the name as something meaningful for you, within the limitations of the permissible characters. (See Note below.)

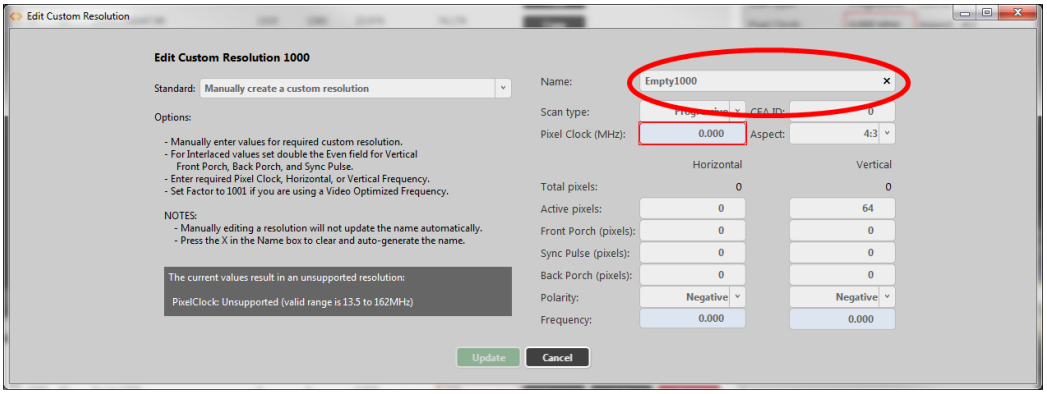
Instructions

1. From the Resolution Editor window, scroll to the Custom Resolutions section and press the **Edit** button next to the Custom Resolution you want to rename.

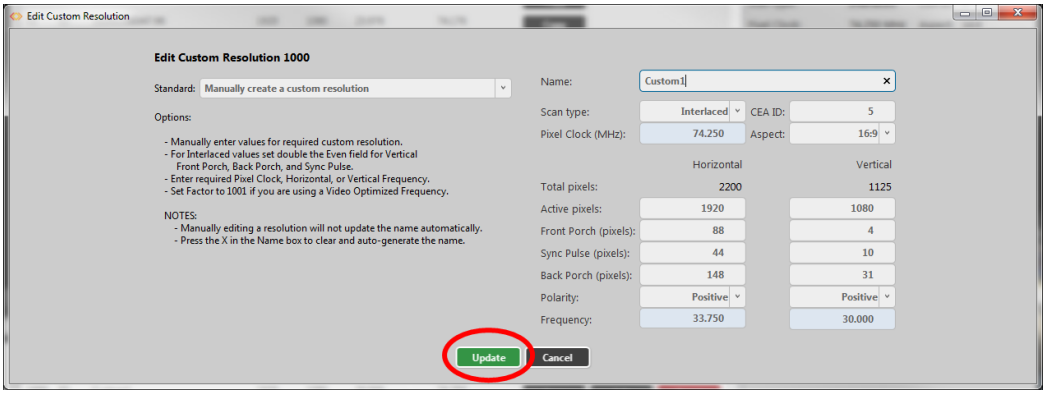


2. In the new window, you can edit various properties of the Custom Resolution. In the top right corner, you can edit the **Name** field. Be sure to read the notes below regarding valid

characters.



3. When you have modified the **Name** as desired, click the **Update** button at the bottom of the window to commit changes and return to the Resolution Editor.



Default

The default **Name** is the string "`Empty`*NNNN*" where '*NNNN*' is the number of the Custom Resolution. Note that Resolution1000 is "`Empty1000`", Resolution1001 is "`Empty1001`", Resolution1009 is "`Empty1009`" and so forth.

Notes

The **Name** attribute has the following limitations:

- must be no more than 23 characters
- only valid printable ASCII characters may be used
- must have no spaces (underscore is valid)

The system does not check for duplicate names - if more than one Custom Resolution has the same name, when you set a Custom Resolution of that name to an output, unexpected behavior may result.

If you change the **Name** attribute of a Custom Resolution that you have already set to an output, the output will revert to the default built-in resolution for that output. To continue using the same Custom Resolution with that output, re-apply it to the output.

It is possible to set a Custom Resolution that has not been configured to an output. This is intentional.

If you wish to use a Custom Resolution with CORIOgrapher the **Name** must conform to the following format:

[width]x[height][scantype][rate][optional]

where:

[width]	width in pixels	num
[height]	height in pixels	num
x	the letter x	x
[scantype]	either i for interlaced or p for progressive.	i or p
[rate]	the frame rate (this must be at least one character and may contain a period if relevant)	num
[optional]	any optional text	null or string

For example, the following are valid **Name** formats for use with CORIOgrapher:

- 1280x720i40055D
- 1280x720p6test
- 1280x720p59.94
- 1280x720i50
- 280x72i30

Caution: If you use CORIOgrapher with a **Name** that does not conform to the format described above, you may experience unexpected consequences.

Editing Aspect Ratio Property from CORIOdiscover Resolution Editor

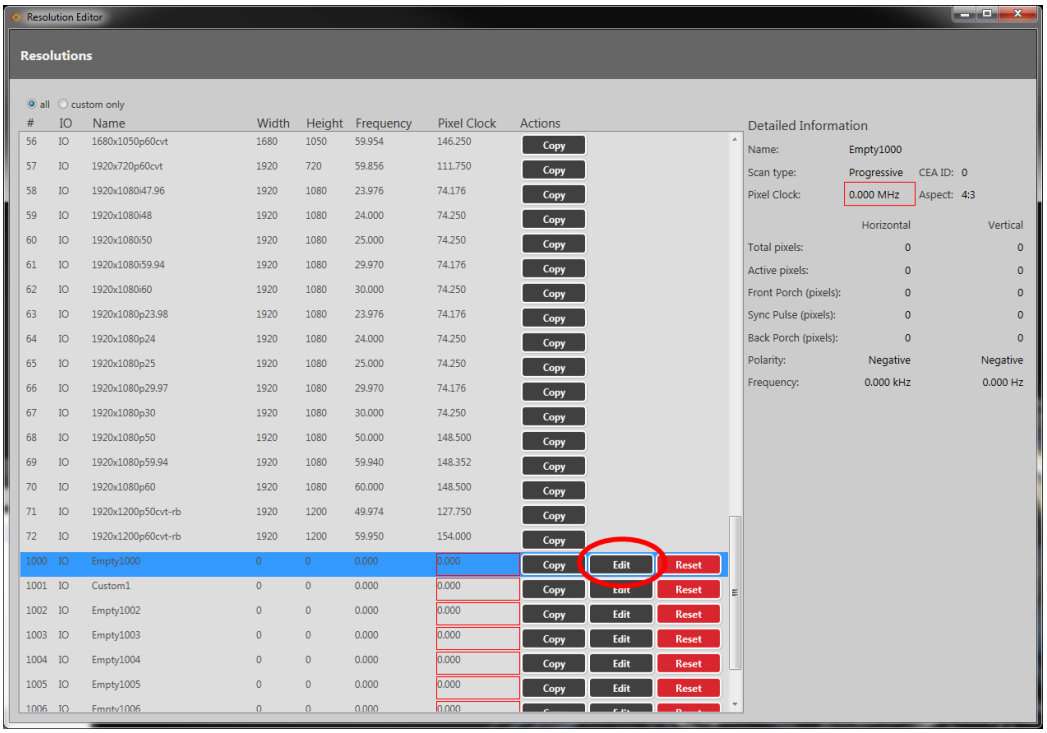
Learn how to set the **Aspect** ratio for a Custom Resolution via the Resolution Editor in CORIOdiscover. This is used on the CORIOmatrix and CORIOmatrix mini to assist in signal conversion when an input and output have different aspect ratio.

Description

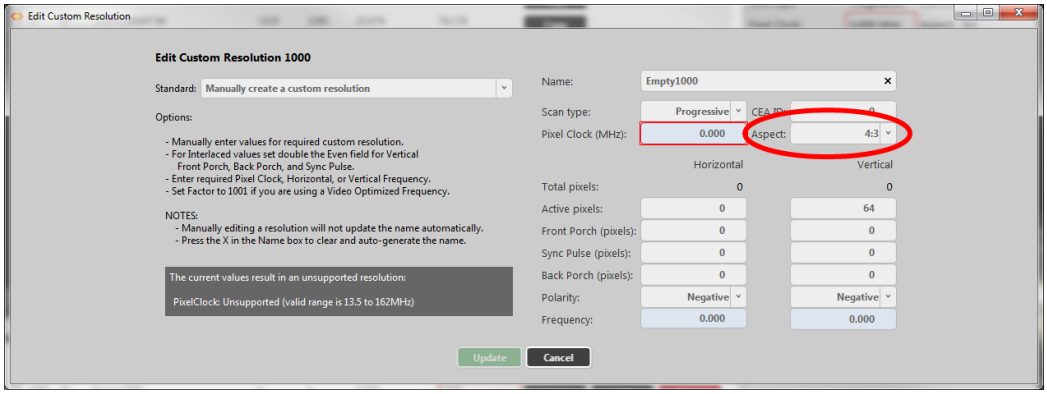
Lists the **Aspect** ratio for this Custom Resolution in the form width:height (in units of equal size).

Instructions

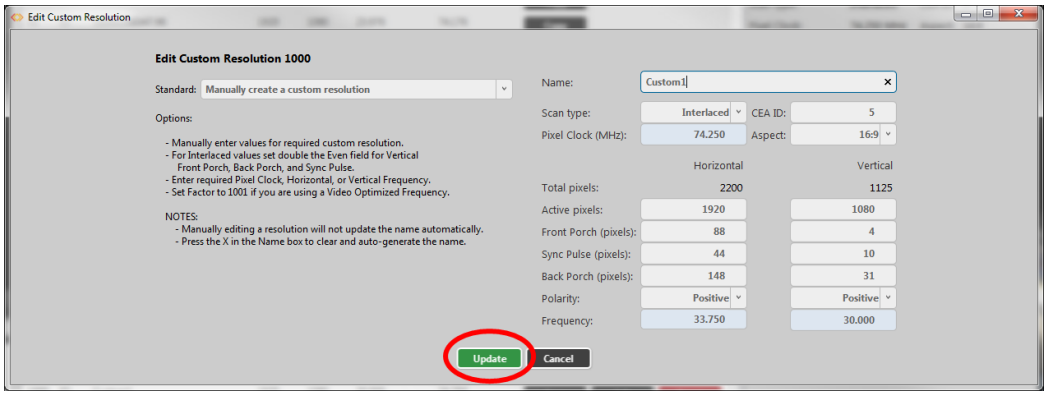
1. From the Resolution Editor window, scroll to the Custom Resolutions section and press the **Edit** button next to the Custom Resolution you want to edit.



2. In the new window, you can edit various properties of the Custom Resolution. In the top right corner, you can choose an option from the **Aspect** drop-down menu.



3. When you have modified the **Aspect** as desired, click the **Update** button at the bottom of the window to commit changes and return to the Resolution Editor.



Default

4:3

Notes

Valid available **Aspect** ratios are:

- 16:9
- 4:3
- 5:4
- 16:10
- 5:3

- 1:1
- 16:6

The system cannot accept any other aspect ratios.

Aspect ratios are used on the CORIOmatrix and CORIOmatrix mini only, not on CORIOmaster or CORIOmaster mini.

Editing Pixel Clock Property from CORIOdiscover Resolution Editor

Learn how to set the **Pixel Clock** for a Custom Resolution via the Resolution Editor in CORIOdiscover.

Description

The **Pixel Clock** value is the speed of the **Pixel Clock** in pixels per second.

The minimum and maximum values are dependent on the following:

p = h * v * f

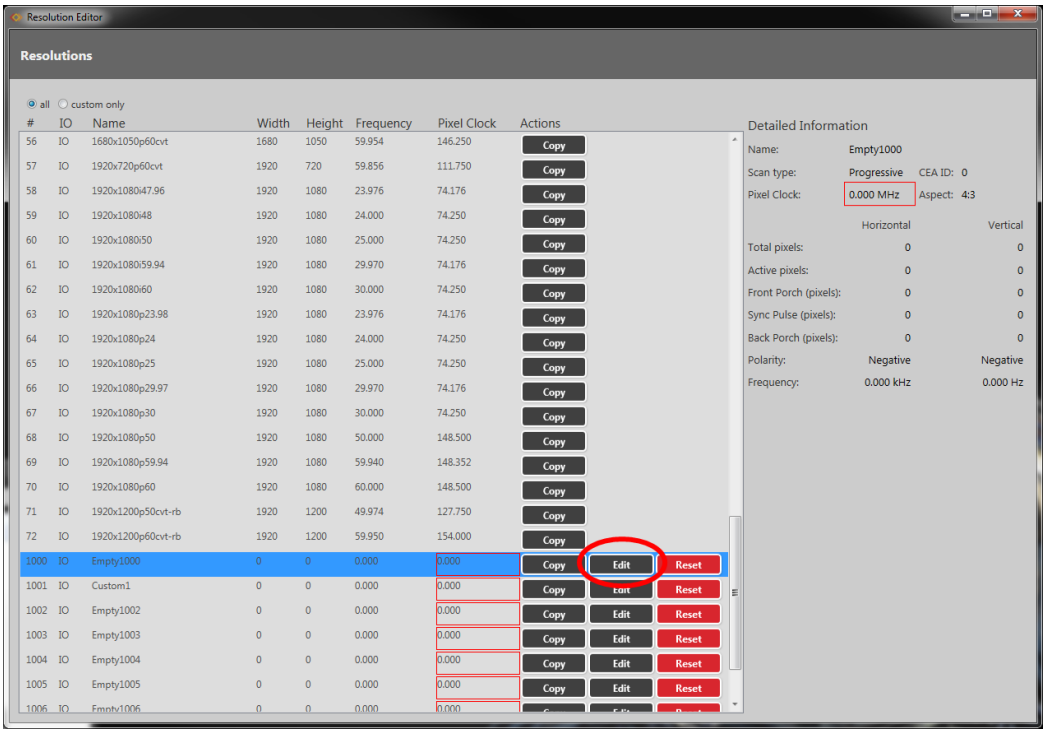
where:

p	Pixels per second
h	Horizontal total pixels
v	Vertical total pixels
f	Frame rate in frames per second

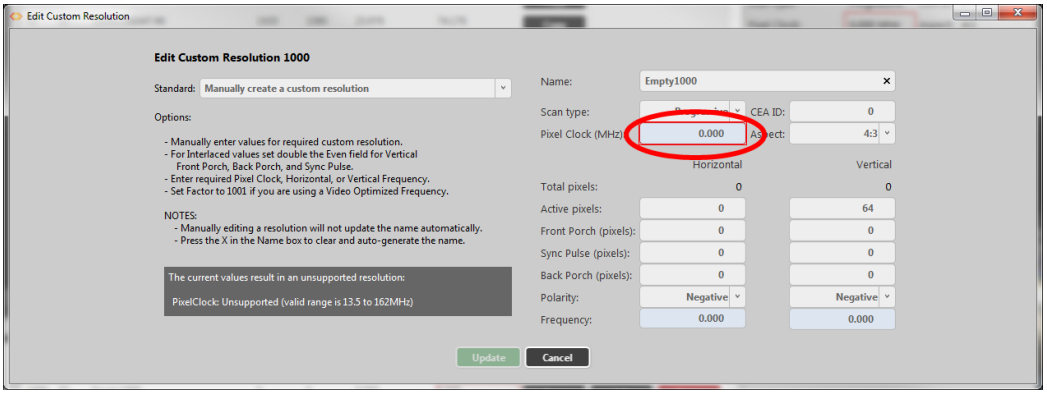
For example, for 1920x1080p60, h=2200, v=1125, and f=60. This gives p = 2200 * 1125 * 60 = 148.5MHz
(Note that h and v are TOTAL pixels, not visible pixels - these numbers are greater than the visible resolution.)

Instructions

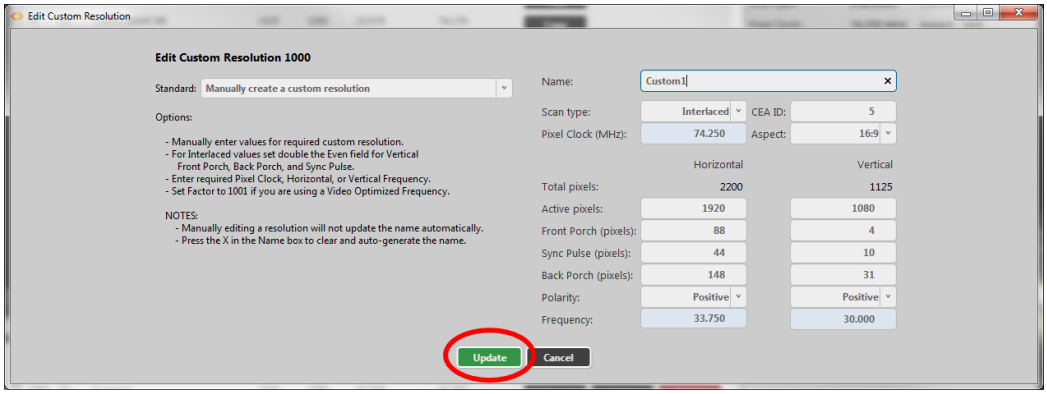
1. From the Resolution Editor window, scroll to the Custom Resolutions section and press the **Edit** button next to the Custom Resolution you want to edit.



2. In the new window, you can edit various properties of the Custom Resolution. In the upper right section, you can type a number into the **Pixel Clock** option.



3. When you have modified the **Aspect** as desired, click the **Update** button at the bottom of the window to commit changes and return to the Resolution Editor.



Default

0
(You cannot save a new Custom Resolution until the default value has been changed to a number in the valid range.)

Notes

The valid range for the **Pixel Clock** is 13.5MHz to 162MHz. As the value in pixels is a function of resolution (including frame rate), the minimum and maximum value in **Pixel Clock** varies with the resolution.

For example:

The minimum **Pixel Clock** at 640x480p60 is 800 * 525 * 59.94 = 25.175MHz (Note that p60 is nomenclature - the rate is actually 59.94MHz)

The maximum **Pixel Clock** at 1600x1200p60 is 2160 * 1250 * 60 = 162MHz

To calculate the **Vertical Front Porch**, **Vertical Sync Pulse** and **Vertical Back Porch** for an interlaced resolution, double the value of the even field. Interlacing standards are designed this way in order to present the values in a similar format to Progressive values.

In the CORIOdiscover Resolution Editor, the **Horizontal Frequency** and **Vertical Frequency** read-only fields are derived from the **Pixel Clock** value.

Editing Scan type Property from CORIOdiscover Resolution Editor

Learn how to set the **Scan type** for a Custom Resolution via the Resolution Editor in CORIOdiscover as either `Interlaced` or `Progressive`.

Description

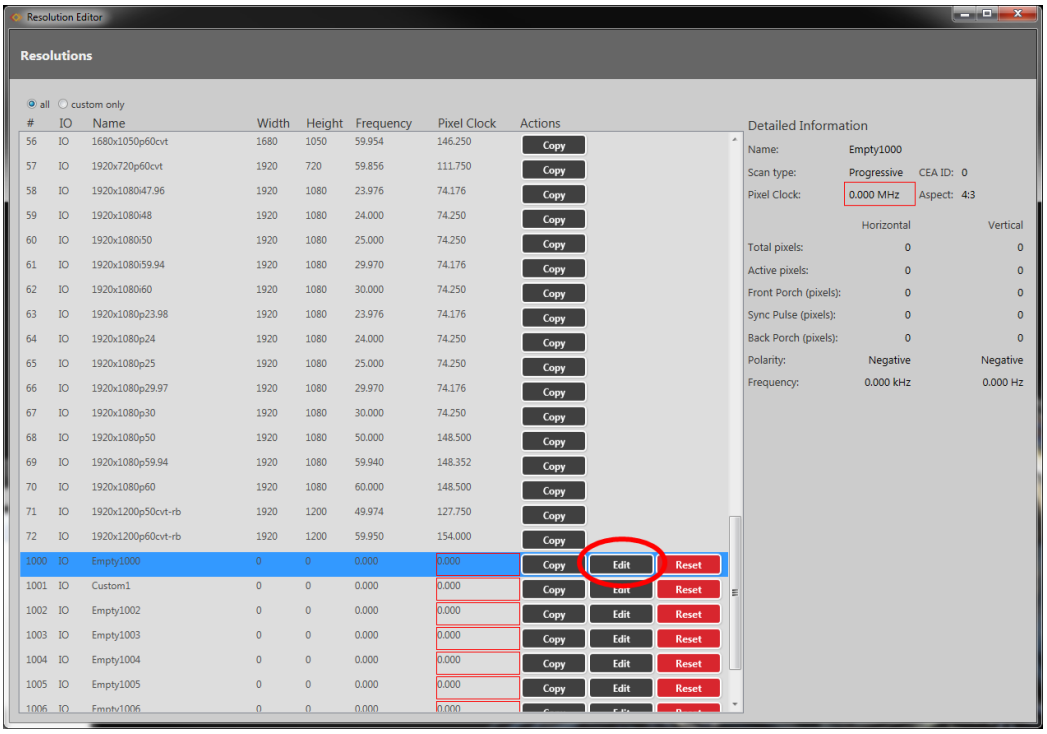
The **Scan type** state of this Custom Resolution has two options:

`p` Progressive scan mode

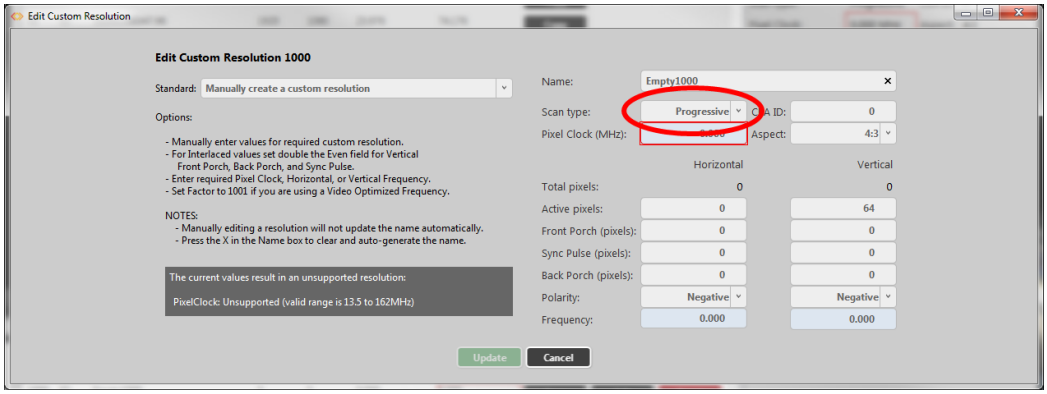
`i` Interlaced scan mode

Instructions

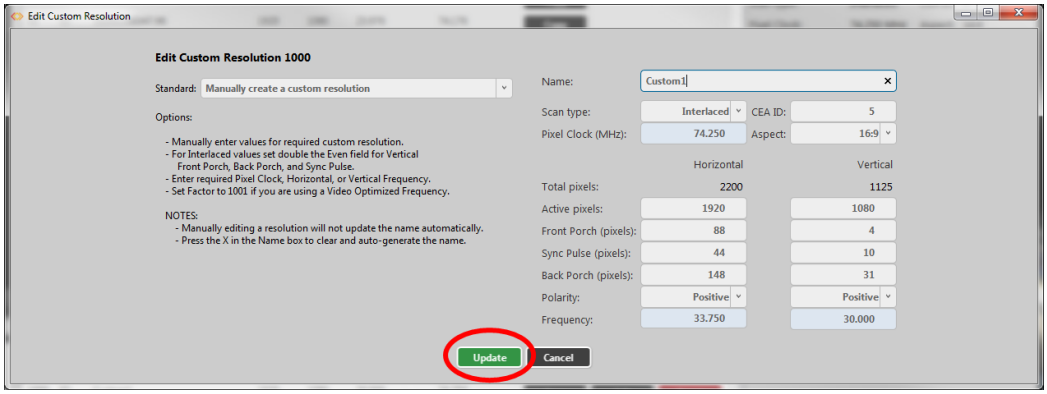
1. From the Resolution Editor window, scroll to the Custom Resolutions section and press the **Edit** button next to the Custom Resolution you want to edit.



2. In the new window, you can edit various properties of the Custom Resolution. In the top right corner, you can choose an option from the **Scan type** drop-down menu.



3. When you have modified the **Scan type** as desired, click the **Update** button at the bottom of the window to commit changes and return to the Resolution Editor.



Default

Progressive (p)

Notes

Only Progressive (p) or interlaced (i) are valid options.

Editing Horizontal Active Pixels Property from CORIOdiscover Resolution Editor

Learn how to set the **Horizontal Active pixels** for a Custom Resolution via the Resolution Editor in CORIOdiscover.

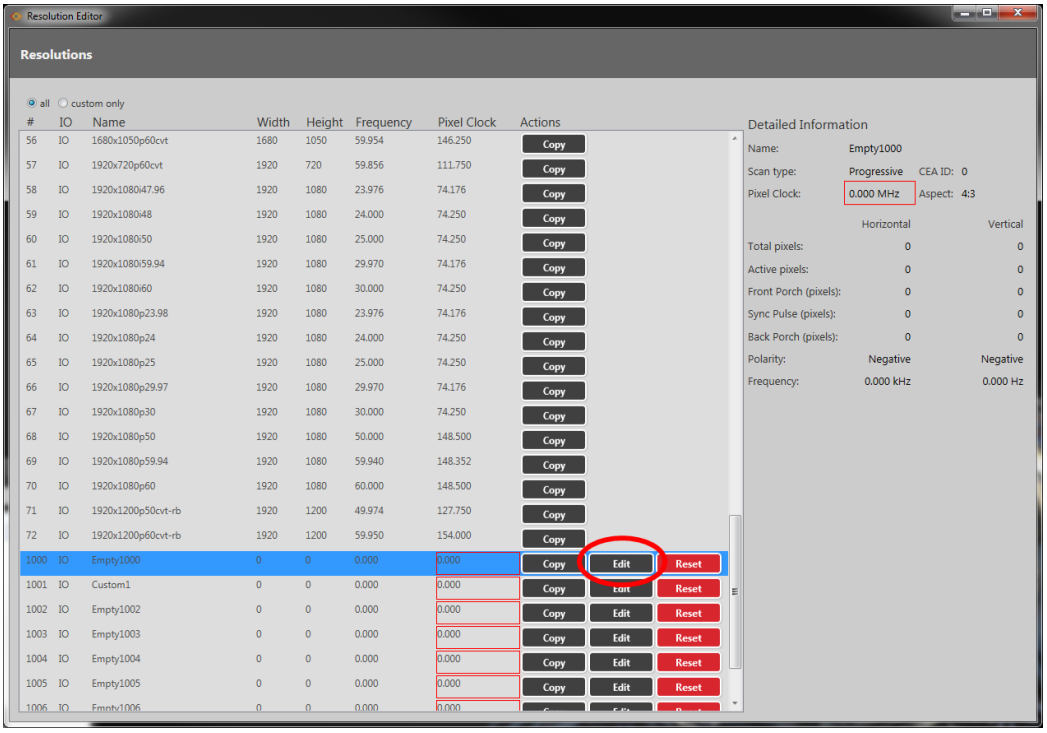
Description

The **Horizontal Active** video is the width of the displayed image in pixels.

For example, for a Custom Resolution of 1024x768 this value would be 1024.

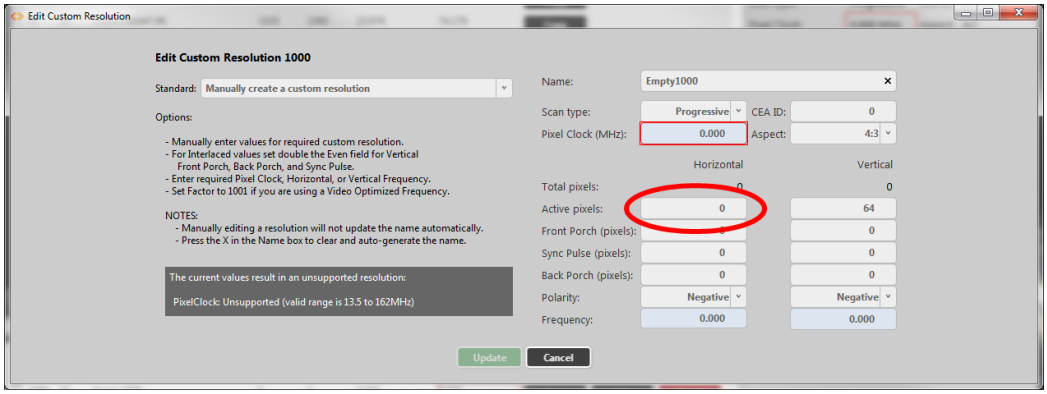
Instructions

1. From the Resolution Editor window, scroll to the Custom Resolutions section and press the **Edit** button next to the Custom Resolution you want to edit.

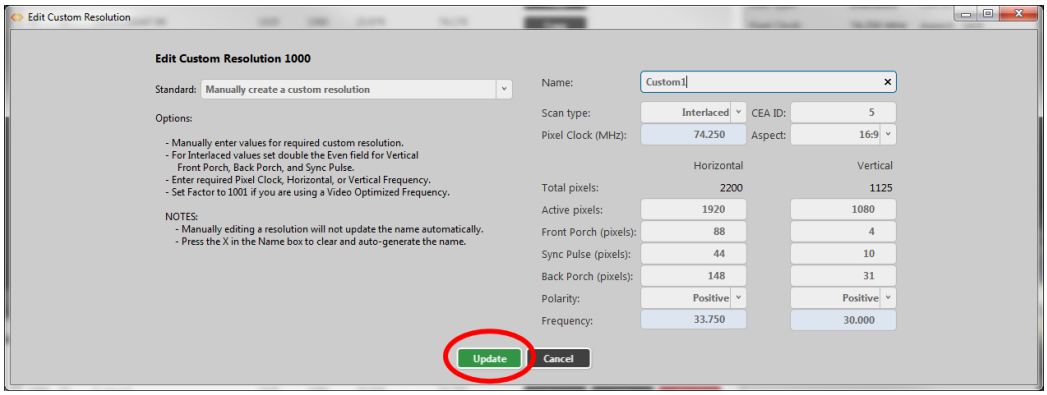


2. In the new window, you can edit various properties of the Custom Resolution. In the left column of the right-hand section, you can type a number into the **Active pixels** field under

the **Horizontal** heading.



3. When you have modified the **Active pixels** as desired, click the **Update** button at the bottom of the window to commit changes and return to the Resolution Editor.



Default

0

Notes

The valid range of values is 64 to 1920.

For a valid Custom Resolution, you must configure this property to a value within the valid range.

In the CORIOdiscover Resolution Editor, the **Pixel Clock** is not affected by any changes to the **Horizontal Active pixels**. However, the **Horizontal Frequency** and **Vertical Frequency** read-only fields vary based on **Horizontal Active pixels** changes.

Editing Horizontal Front Porch Property from CORIOdiscover Resolution Editor

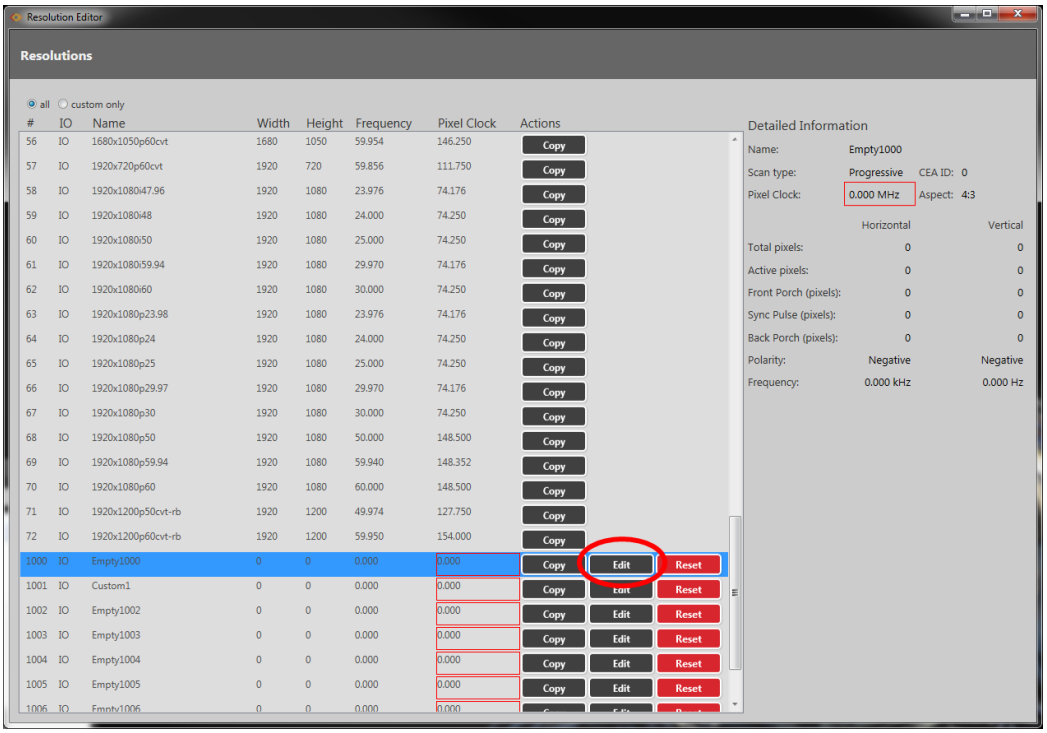
Learn how to set the **Horizontal Front Porch** for a Custom Resolution via the Resolution Editor in CORIOdiscover.

Description

The **Horizontal Front Porch** is the gap between the end of the Active Video and the start of the **Horizontal Sync Pulse**, in pixels.

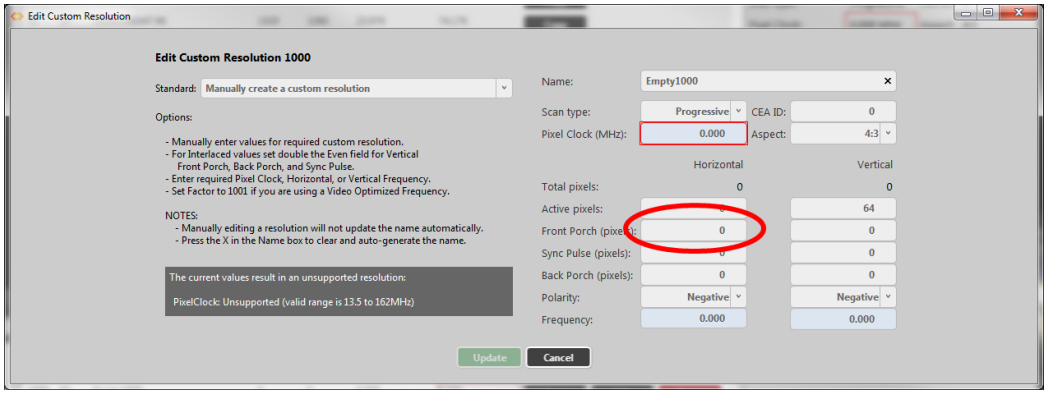
Instructions

1. From the Resolution Editor window, scroll to the Custom Resolutions section and press the **Edit** button next to the Custom Resolution you want to edit.

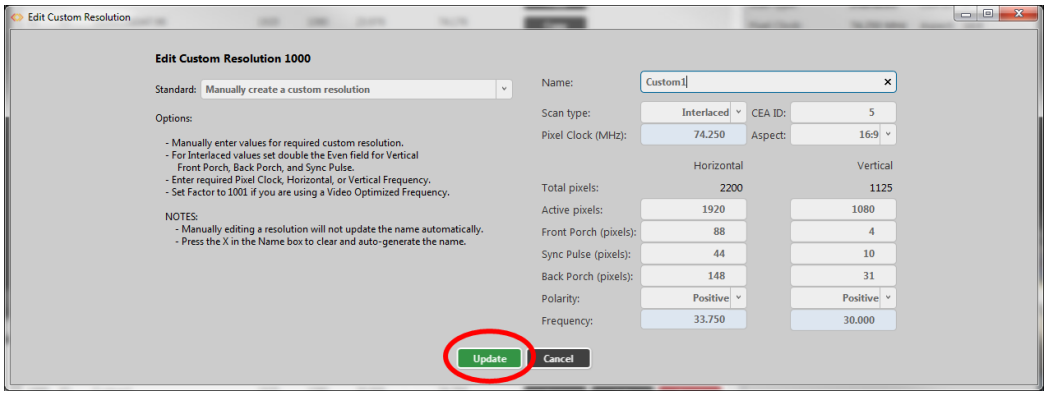


2. In the new window, you can edit various properties of the Custom Resolution. In the left column of the right-hand section, you can type a number into the **Front Porch (pixels)**

field under the **Horizontal** heading.



3. When you have modified the **Front Porch** as desired, click the **Update** button at the bottom of the window to commit changes and return to the Resolution Editor.



Default

0

Notes

The valid range of values is 1 to 2000.

For a valid Custom Resolution, you must configure this property to a value within the valid range.

In the CORIOdiscover Resolution Editor, the **Pixel Clock**is not affected by any changes to the **Horizontal Front Porch**. However, the **Horizontal Frequency** and **Vertical Frequency** read-only fields vary based on **Horizontal Front Porch** changes.

Editing Horizontal Sync Pulse Property from CORIOdiscover Resolution Editor

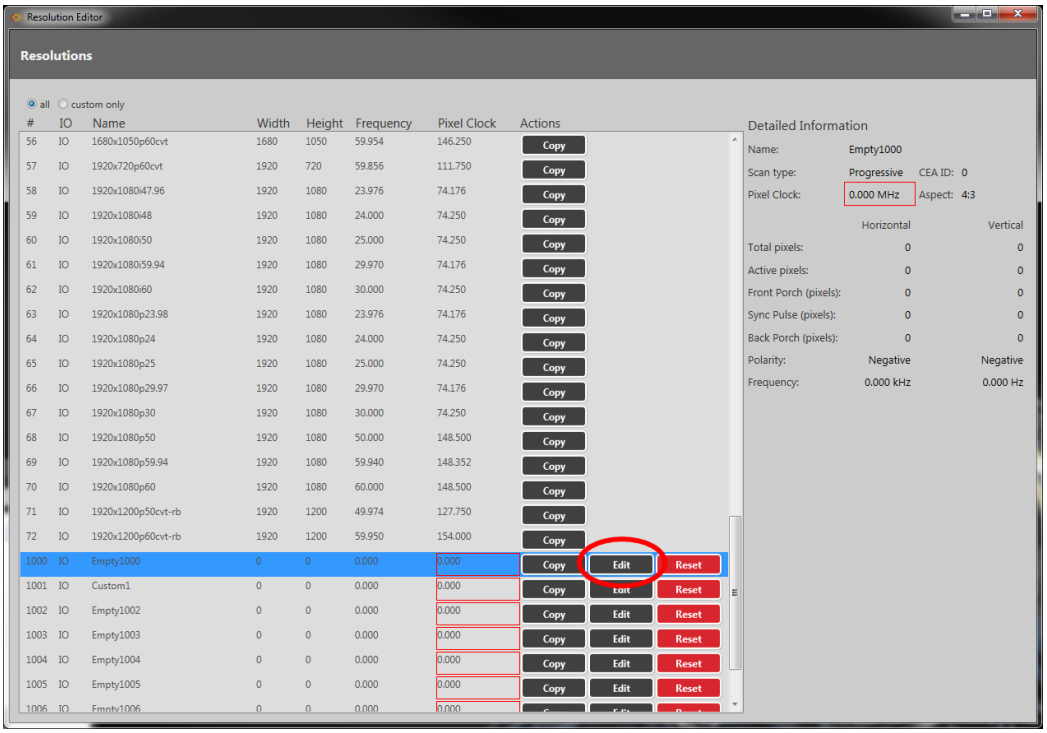
Learn how to set the **Horizontal Sync Pulse** for a Custom Resolution via the Resolution Editor in CORIOdiscover.

Description

The **Horizontal Sync Pulse** identifies the start of each row of pixels (line of video) in the Custom Resolution.

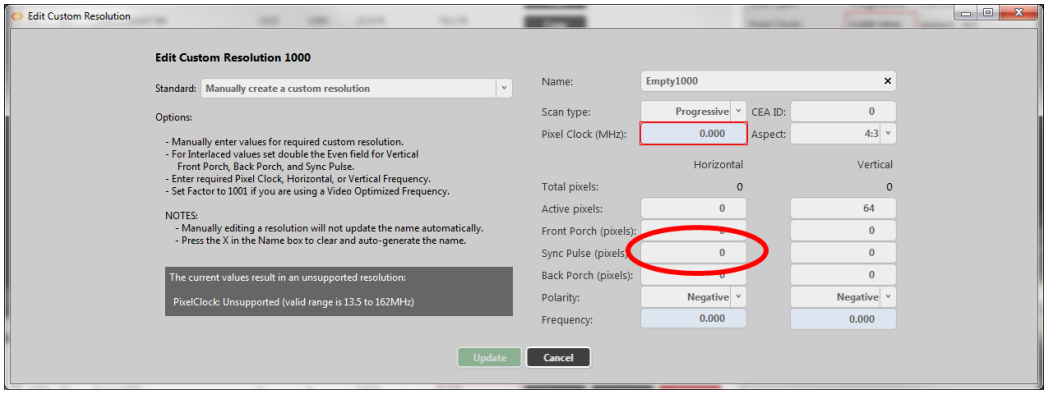
Instructions

1. From the Resolution Editor window, scroll to the Custom Resolutions section and press the **Edit** button next to the Custom Resolution you want to edit.

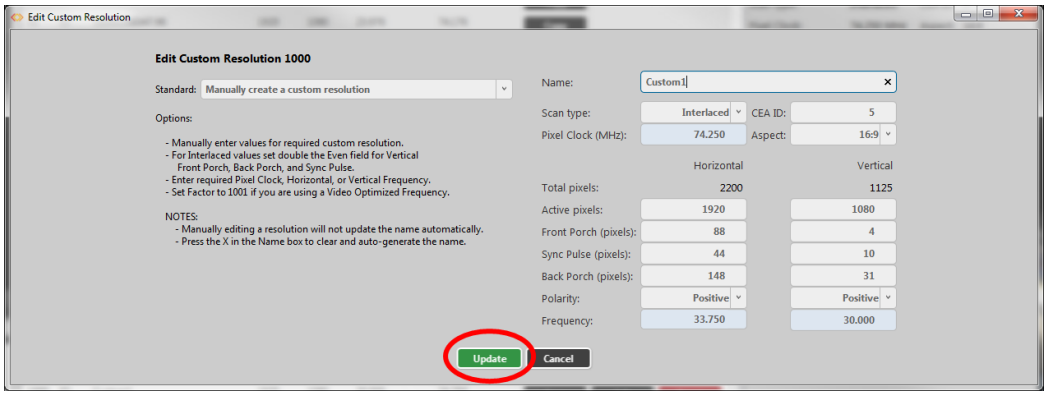


2. In the new window, you can edit various properties of the Custom Resolution. In the left column of the right-hand section, you can type a number into the **Sync Pulse (pixels)** field

under the **Horizontal** heading.



3. When you have modified the **Sync Pulse** as desired, click the **Update** button at the bottom of the window to commit changes and return to the Resolution Editor.



Default

0

Notes

The valid range of values is 8 to 500.

For a valid Custom Resolution, you must configure this property to a value within the valid range.

In the CORIOdiscover Resolution Editor, the **Pixel Clock**is not affected by any changes to the **Horizontal Sync Pulse**. However, the **Horizontal Frequency** and **Vertical Frequency** read-only fields vary based on **Horizontal Sync Pulse** changes.

Editing Horizontal Back Porch Property from CORIOdiscover Resolution Editor

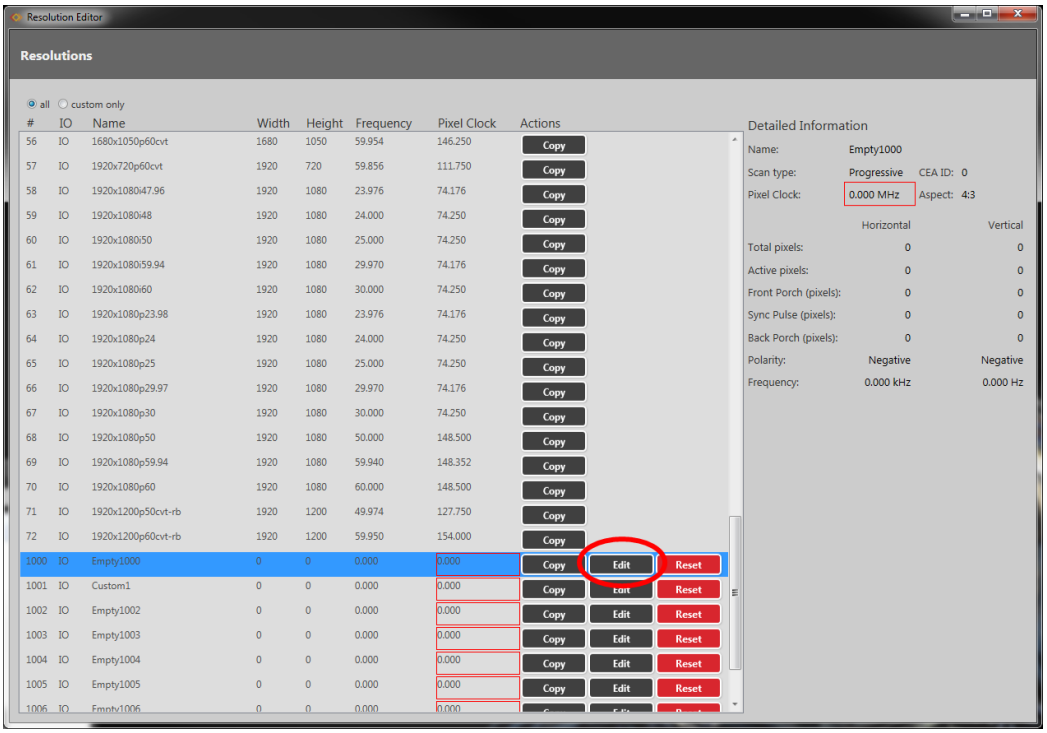
Learn how to set the timing interval for the **Horizontal Back Porch** for a Custom Resolution via the Resolution Editor in CORIOdiscover.

Description

The **Horizontal Back Porch** is the gap between the end of the **Horizontal Sync Pulse**and the beginning of the Active Video, in pixels.

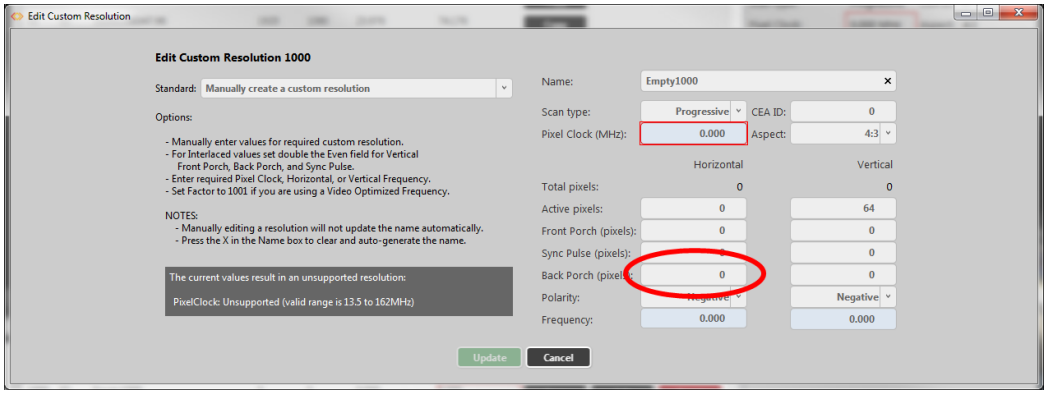
Instructions

1. From the Resolution Editor window, scroll to the Custom Resolutions section and press the **Edit** button next to the Custom Resolution you want to edit.

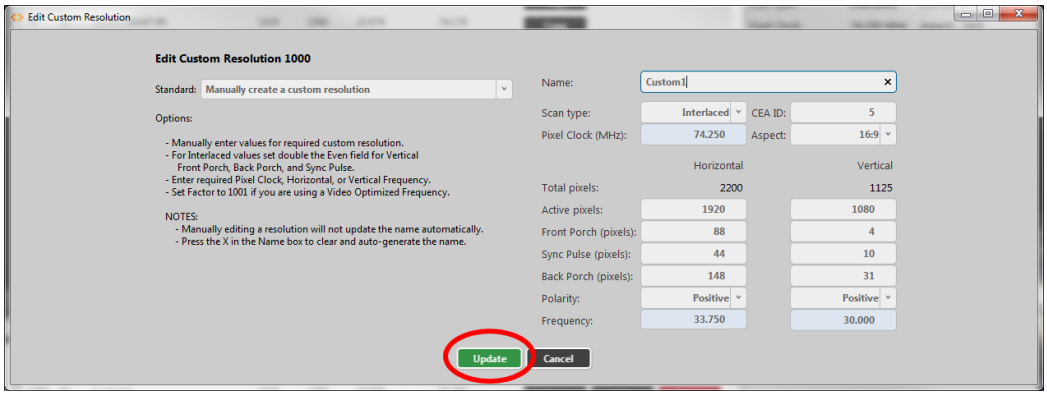


2. In the new window, you can edit various properties of the Custom Resolution. In the left column of the right-hand section, you can type a number into the **Back Porch (pixels)**

field under the **Horizontal** heading.



3. When you have modified the **Back Porch** as desired, click the **Update** button at the bottom of the window to commit changes and return to the Resolution Editor.



Default

0

Notes

The valid range of values is 1 to 2000.

For a valid Custom Resolution, you must configure this property to a value within the valid range.

In the CORIOdiscover Resolution Editor, the **Pixel Clock**is not affected by any changes to the **Horizontal Back Porch**. However, the **Horizontal Frequency** and **Vertical Frequency** read-only fields vary based on **Horizontal Back Porch** changes.

Editing Horizontal Sync Polarity Property from CORIOdiscover Resolution Editor

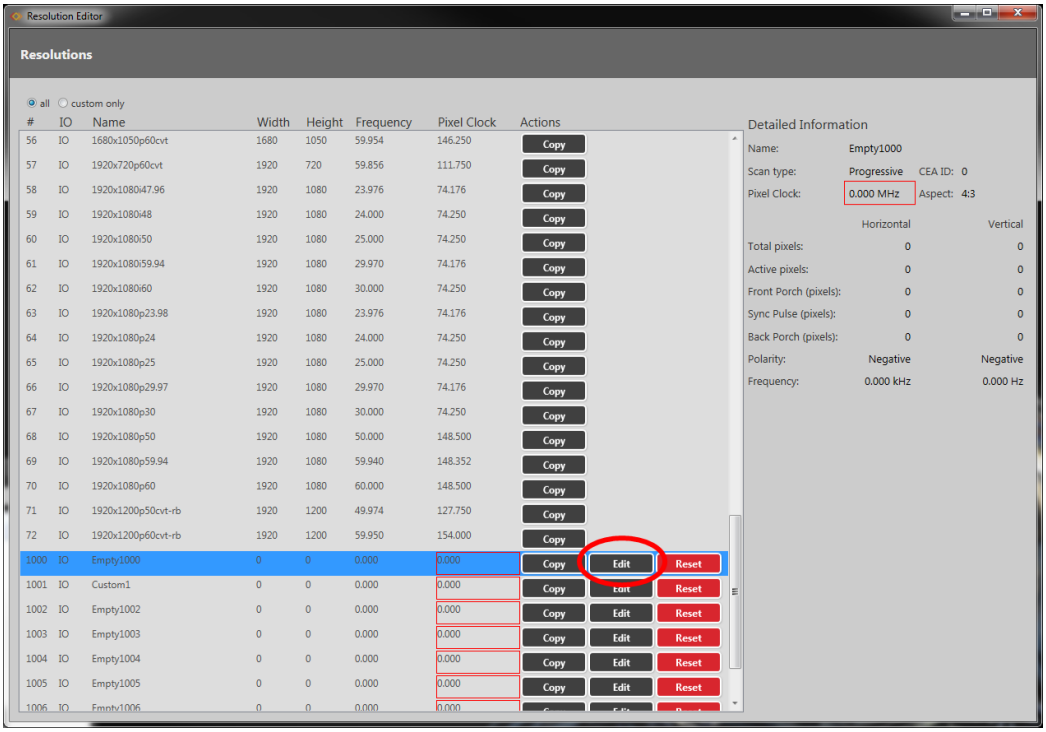
Learn how to set the **Horizontal Synchronization Polarity** for a Custom Resolution via the Resolution Editor in CORIOdiscover.

Description

The **Horizontal Sync Pulse** is a single short pulse which identifies the start of each row of pixels (line of video) in the Custom Resolution. It can be either **Positive** or **Negative**. This value is the **Horizontal Sync Polarity**.

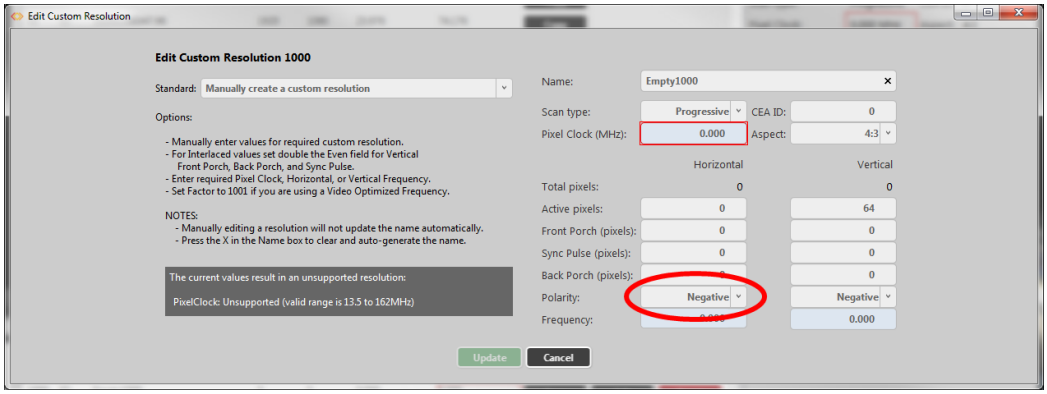
Instructions

1. From the Resolution Editor window, scroll to the Custom Resolutions section and press the **Edit** button next to the Custom Resolution you want to edit.

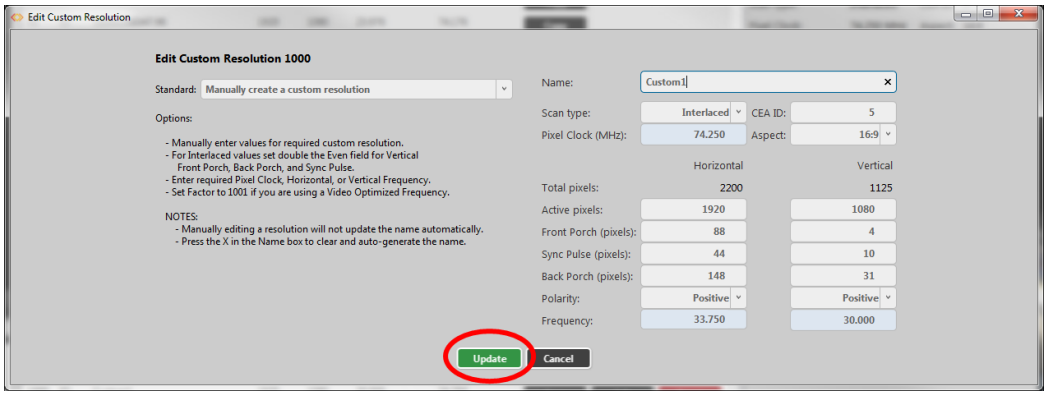


2. In the new window, you can edit various properties of the Custom Resolution. In the left column of the right-hand section, you can choose **Positive** or **Negative** from the drop-

down **Polarity** list under the **Horizontal** heading.



3. When you have modified the **Horizontal Sync Polarity** as desired, click the **Update** button at the bottom of the window to commit changes and return to the Resolution Editor.



Default

N

Notes

In the CORIOdiscover Resolution Editor, the **Pixel Clock**is not affected by any changes to the **Horizontal Sync Polarity**. However, the **Horizontal Frequency** and **Vertical Frequency** read-only fields vary based on **Horizontal Sync Polarity** changes.

Editing Vertical Active Pixels Property from CORIOdiscover Resolution Editor

Learn how to set the **Vertical Active pixels** for a Custom Resolution via the Resolution Editor in CORIOdiscover.

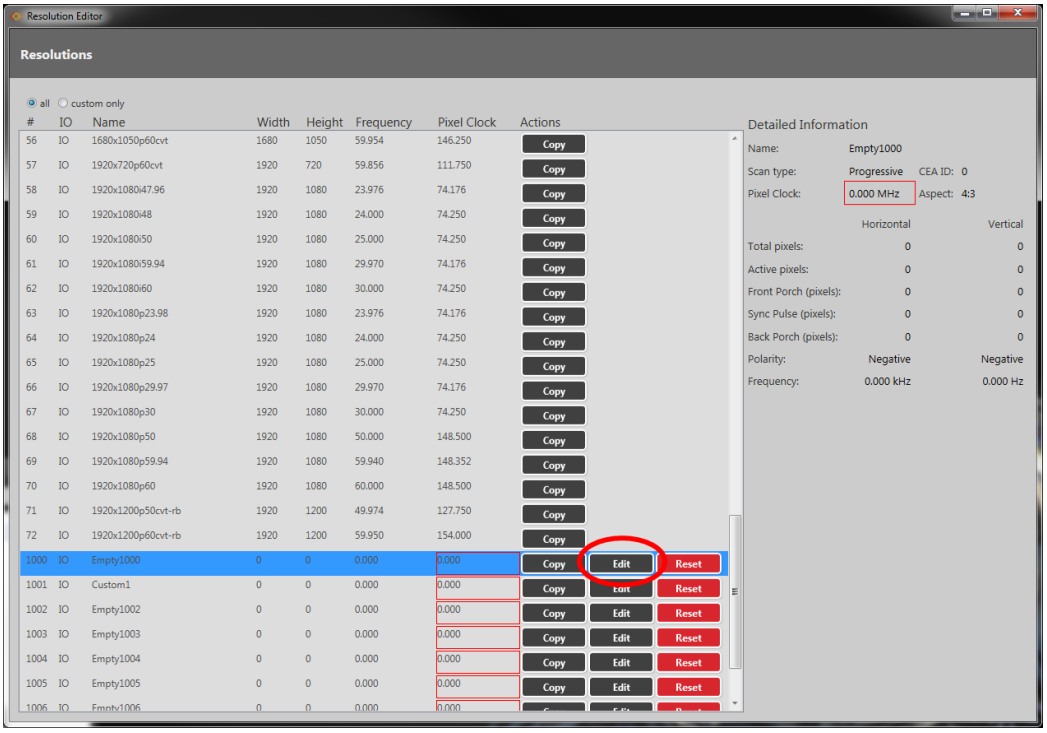
Description

The **Vertical Active** video is the height of the displayed image in pixels.

For example, for a Custom Resolution of 1024x768 this value would be 768.

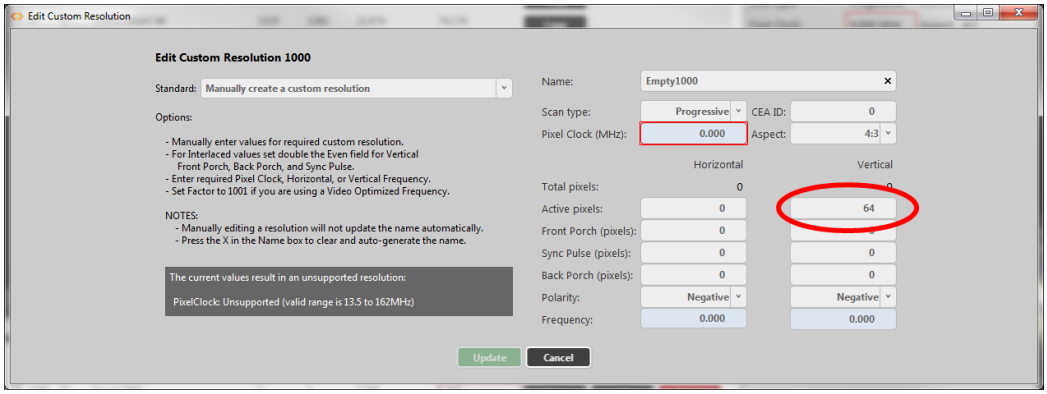
Instructions

1. From the Resolution Editor window, scroll to the Custom Resolutions section and press the **Edit** button next to the Custom Resolution you want to edit.

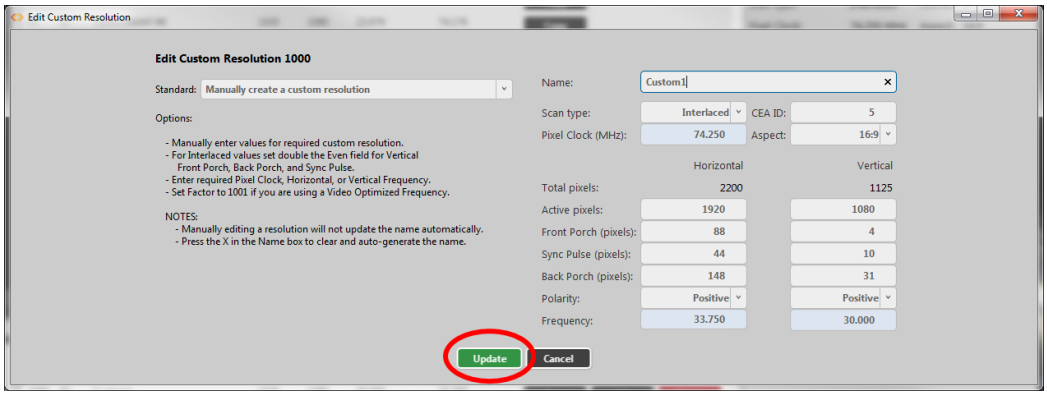


2. In the new window, you can edit various properties of the Custom Resolution. In the right column of the right-hand section, you can type a number into the **Active pixels** field under

the **Vertical** heading.



3. When you have modified the **Active pixels** as desired, click the **Update** button at the bottom of the window to commit changes and return to the Resolution Editor.



Default

0

Notes

The valid range of values is 64 to 1200.

For a valid Custom Resolution, you must configure this property to a value within the valid range.

In the CORIOdiscover Resolution Editor, the **Pixel Clock** is not affected by any changes to the **Vertical Active pixels**. However, the **Vertical Frequency** read-only field varies based on **Vertical Active pixels** changes.

Editing Vertical Front Porch Property from CORIOdiscover Resolution Editor

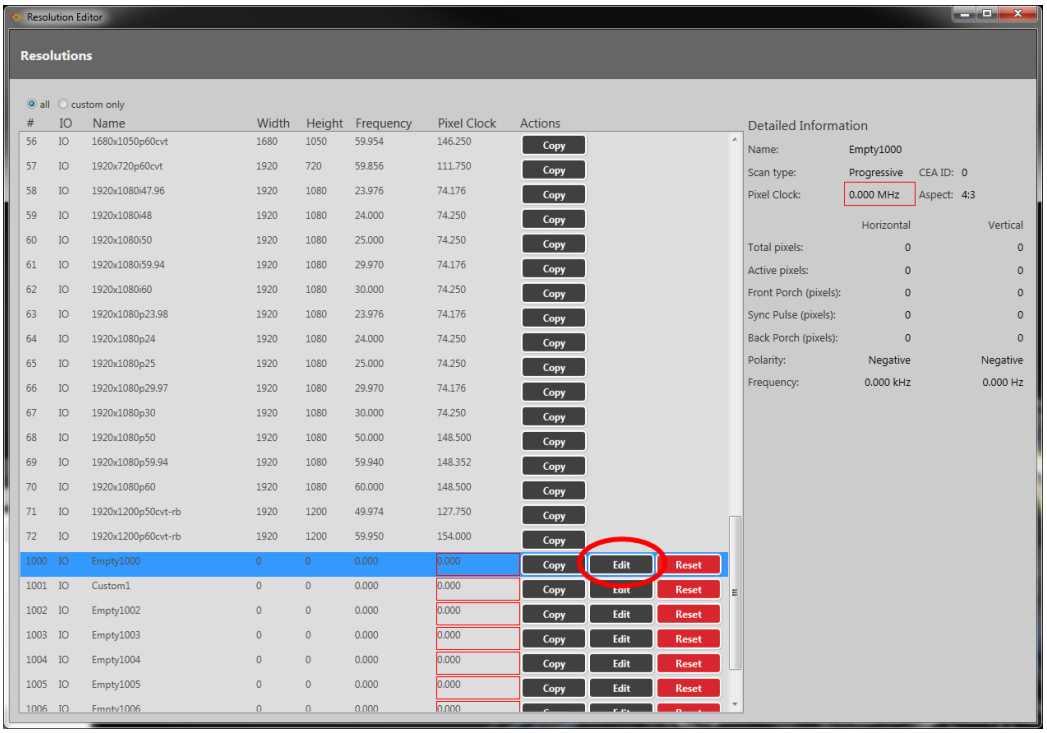
Learn how to set the **Vertical Front Porch** for a Custom Resolution via the Resolution Editor in CORIOdiscover.

Description

The **Vertical Front Porch** is the gap between the end of the Active Video and the start of the **Vertical Sync Pulse**, in pixels.

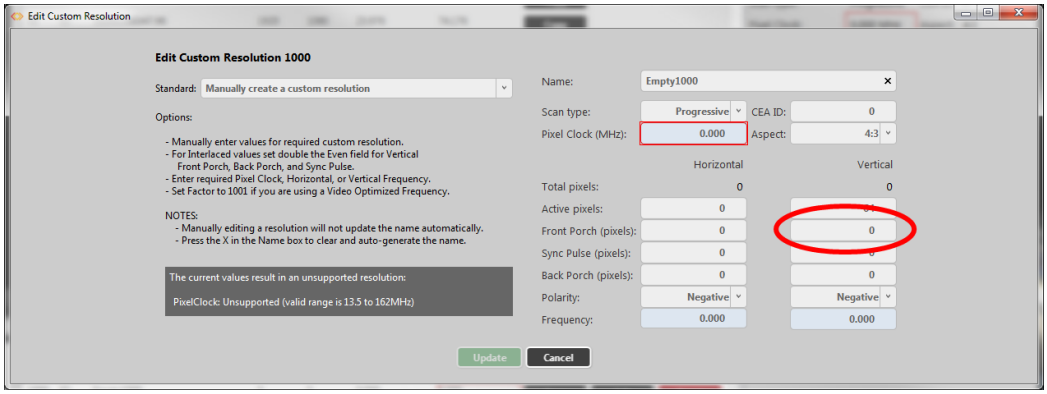
Instructions

1. From the Resolution Editor window, scroll to the Custom Resolutions section and press the **Edit** button next to the Custom Resolution you want to edit.

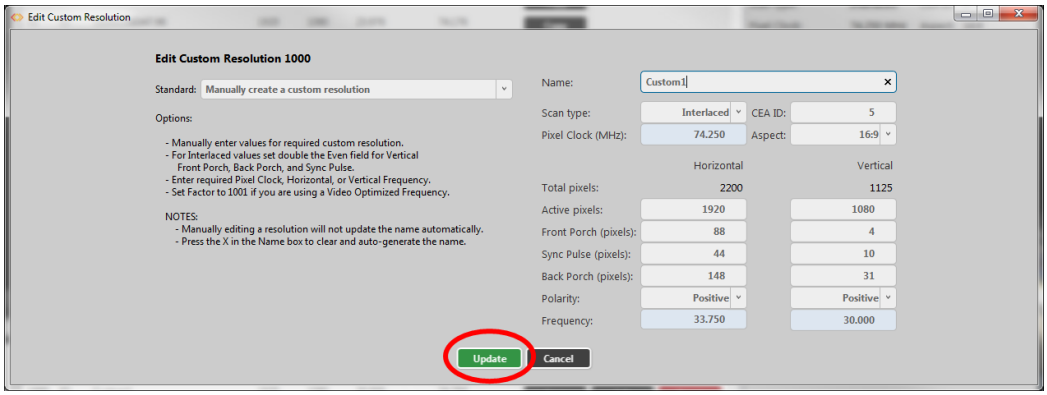


2. In the new window, you can edit various properties of the Custom Resolution. In the right column of the right-hand section, you can type a number into the **Front Porch (pixels)**

field under the **Vertical** heading.



3. When you have modified the **Front Porch** as desired, click the **Update** button at the bottom of the window to commit changes and return to the Resolution Editor.



Default

0

Notes

The valid range of values is 1 to 2000.

For a valid Custom Resolution, you must configure this property to a value within the valid range.

To calculate the **Vertical Front Porch**, **Vertical Sync Pulse** and **Vertical Back Porch** for an interlaced resolution, double the value of the even field. Interlacing standards are designed this way in order to present the values in a similar format to Progressive values.

Interlaced Custom Resolutions require that the **Vertical Front Porch** is twice the even field.

For example, a **Vertical Front Porch** of 6 gives:

Odd field:	3.5
Even field:	3

In the CORIOdiscover Resolution Editor, the **Pixel Clock**is not affected by any changes to the **Vertical Front Porch**. However, the **Vertical Frequency** read-only field varies based on **Vertical Front Porch** changes.

Editing Vertical Sync Pulse Property from CORIOdiscover Resolution Editor

Learn how to set the **Vertical Sync Pulse** for a Custom Resolution via the Resolution Editor in CORIOdiscover.

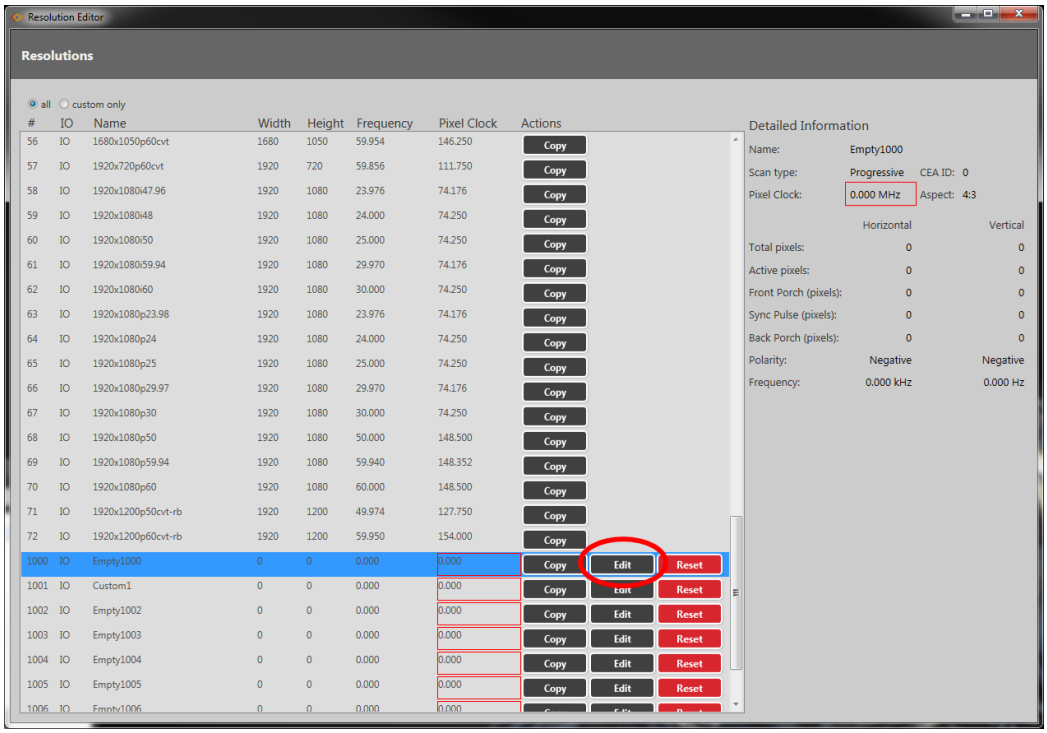
Description

The **Vertical Sync Pulse** identifies the start of each frame of video in the Custom Resolution.

Note that for **Interlaced** Custom Resolutions both odd and even frames will have a **Vertical Sync Pulse**.

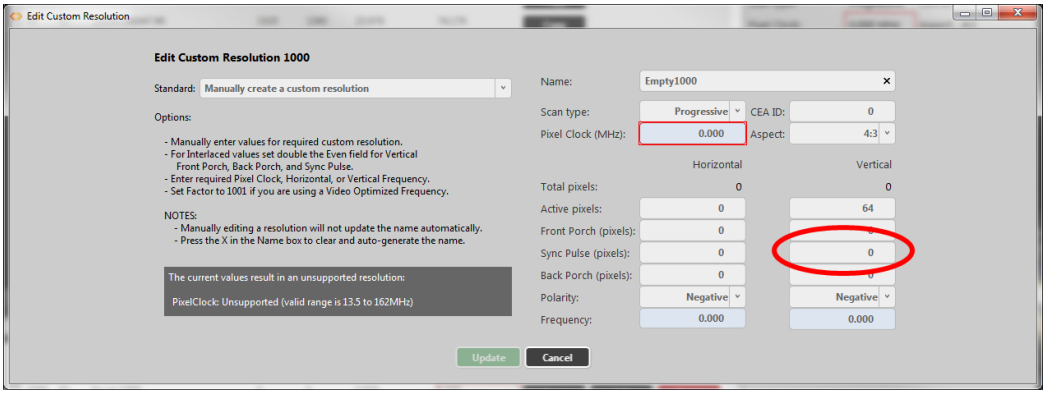
Instructions

1. From the Resolution Editor window, scroll to the Custom Resolutions section and press the **Edit** button next to the Custom Resolution you want to edit.

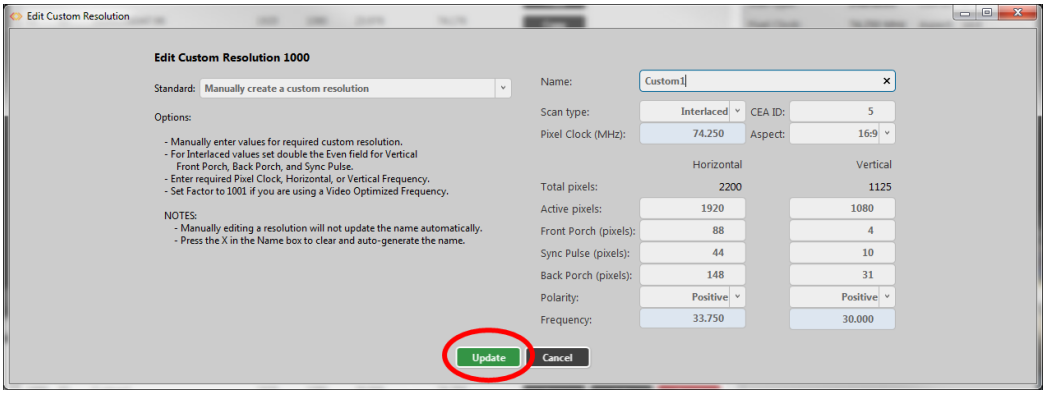


2. In the new window, you can edit various properties of the Custom Resolution. In the right column of the right-hand section, you can type a number into the **Sync Pulse (pixels)** field

under the **Vertical** heading.



3. When you have modified the **Sync Pulse** as desired, click the **Update** button at the bottom of the window to commit changes and return to the Resolution Editor.



Default

0

Notes

The valid range of values is 1 to 100.

For a valid Custom Resolution, you must configure this property to a value within the valid range.

To calculate the **Vertical Front Porch**, **Vertical Sync Pulse** and **Vertical Back Porch** for an interlaced resolution, double the value of the even field. Interlacing standards are designed this way in order to present the values in a similar format to Progressive values.

Interlaced Custom Resolutions require that the **Vertical Sync Pulse** is twice the even field.

For example, a **Vertical Sync Pulse** of 10 gives:

Odd field:	5
Even field:	5

In the CORIOdiscover Resolution Editor, the **Pixel Clock**is not affected by any changes to the **Vertical Sync Pulse**. However, the **Vertical Frequency** read-only field varies based on **Vertical Sync Pulse** changes.

Editing Vertical Back Porch Property from CORIOdiscover Resolution Editor

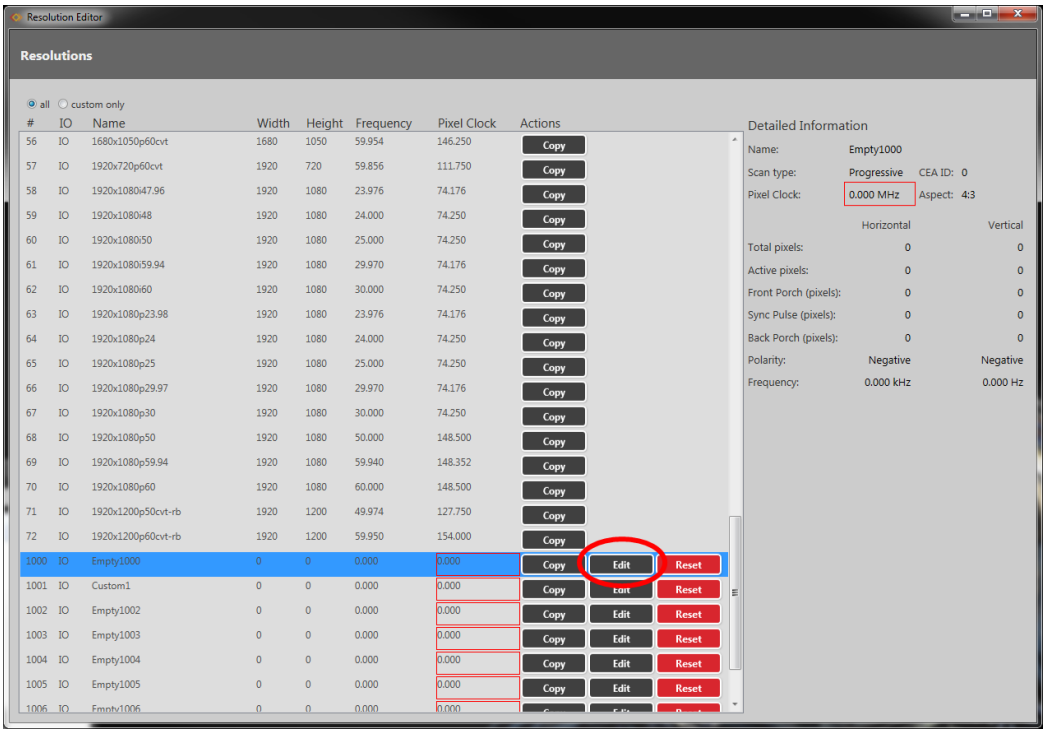
Learn how to set the timing interval for the **Vertical Back Porch** for a Custom Resolution via the Resolution Editor in CORIOdiscover.

Description

The **Vertical Back Porch** is the gap between the end of the **Vertical Sync Pulse**and the beginning of the Active Video, in pixels.

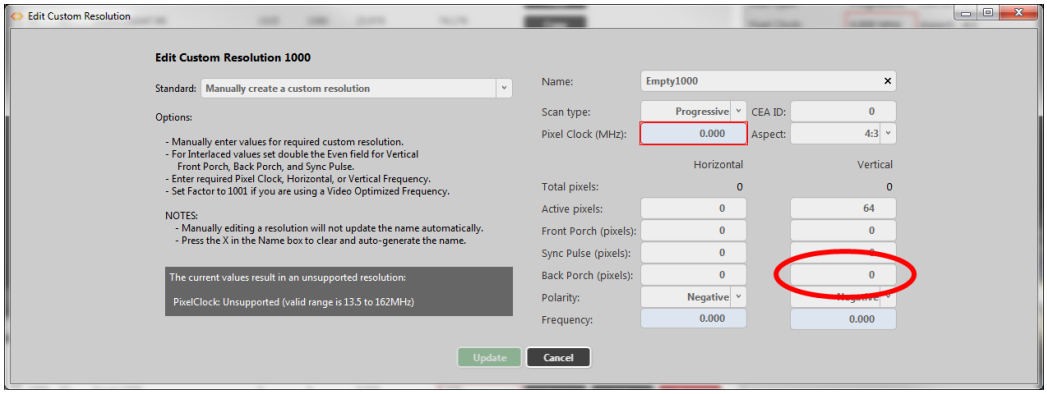
Instructions

1. From the Resolution Editor window, scroll to the Custom Resolutions section and press the **Edit** button next to the Custom Resolution you want to edit.

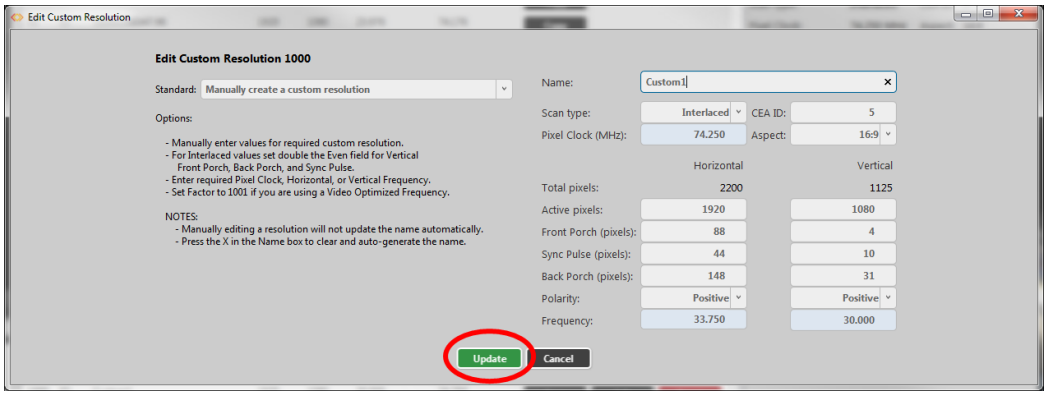


2. In the new window, you can edit various properties of the Custom Resolution. In the right column of the right-hand section, you can type a number into the **Back Porch (pixels)**

field under the **Vertical** heading.



3. When you have modified the **Back Porch** as desired, click the **Update** button at the bottom of the window to commit changes and return to the Resolution Editor.



Default

0

Notes

The valid range of values is 1 to 100.

For a valid Custom Resolution, you must configure this property to a value within the valid range.

To calculate the **Vertical Front Porch**, **Vertical Sync Pulse** and **Vertical Back Porch** for an interlaced resolution, double the value of the even field. Interlacing standards are designed this way in order to present the values in a similar format to Progressive values.

Interlaced Custom Resolutions require that the **Vertical Back Porch** is twice the even field.

For example, a **Vertical Back Porch** of 69 gives:

Odd field:	34
Even field:	34.5

In the CORIOdiscover Resolution Editor, the **Pixel Clock**is not affected by any changes to the **Vertical Back Porch**. However, the **Vertical Frequency** read-only field varies based on **Vertical Back Porch** changes.

Editing Vertical Sync Polarity Property from CORIOdiscover Resolution Editor

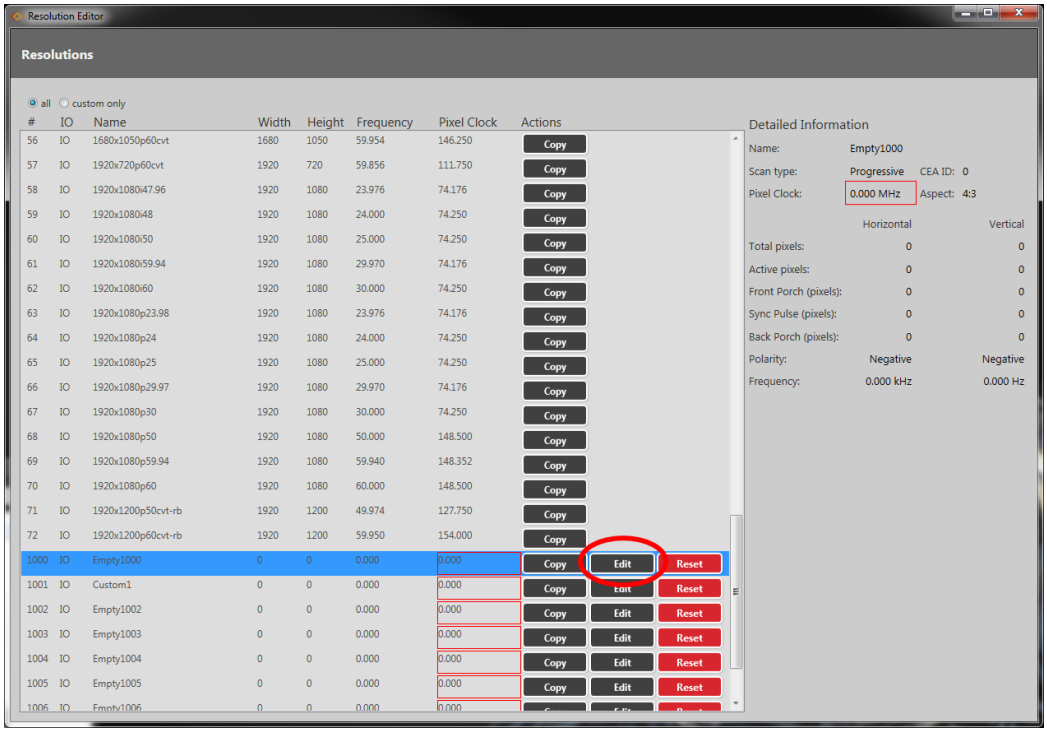
Learn how to set the **Vertical Synchronization Polarity** for a Custom Resolution via the Resolution Editor in CORIOdiscover.

Description

The **Vertical Sync Pulse** separates the video fields in the Custom Resolution. It can be either **Positive** or **Negative**. This value is the **Vertical Sync Polarity**.

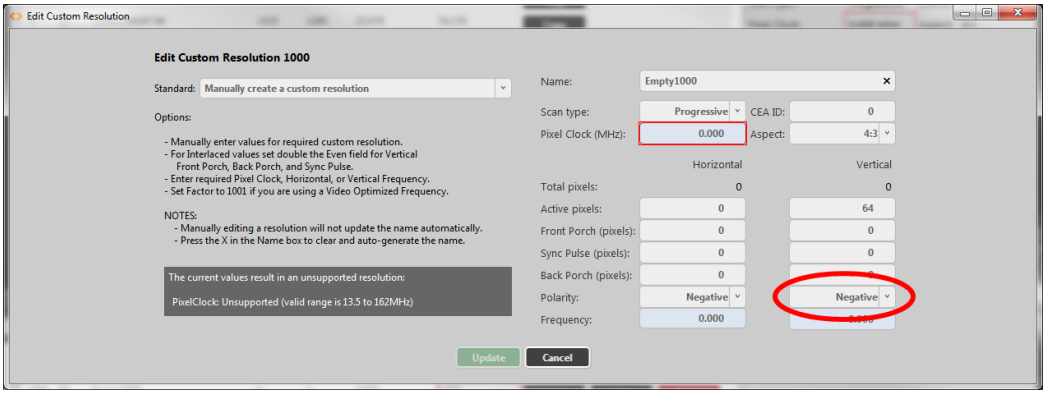
Instructions

1. From the Resolution Editor window, scroll to the Custom Resolutions section and press the **Edit** button next to the Custom Resolution you want to edit.

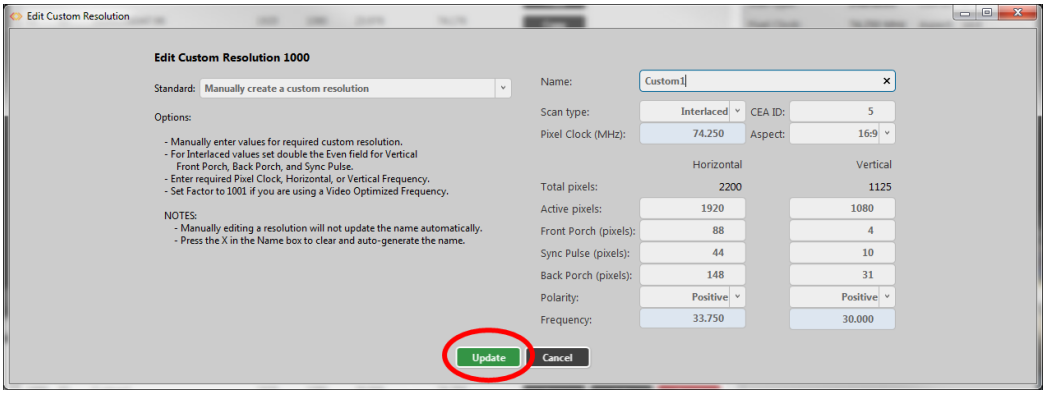


2. In the new window, you can edit various properties of the Custom Resolution. In the right column of the right-hand section, you can choose **Positive** or **Negative** from the drop-

down **Polarity** list under the **Vertical** heading.



3. When you have modified the **Vertical Sync Polarity** as desired, click the **Update** button at the bottom of the window to commit changes and return to the Resolution Editor.



Default

N

Notes

In the CORIOdiscover Resolution Editor, the **Pixel Clock**is not affected by any changes to the **Vertical Sync Polarity**. However,the **Vertical Frequency** read-only field varies based on **Vertical Sync Polarity** changes.

Editing CEA ID Property from CORIOdiscover Resolution Editor

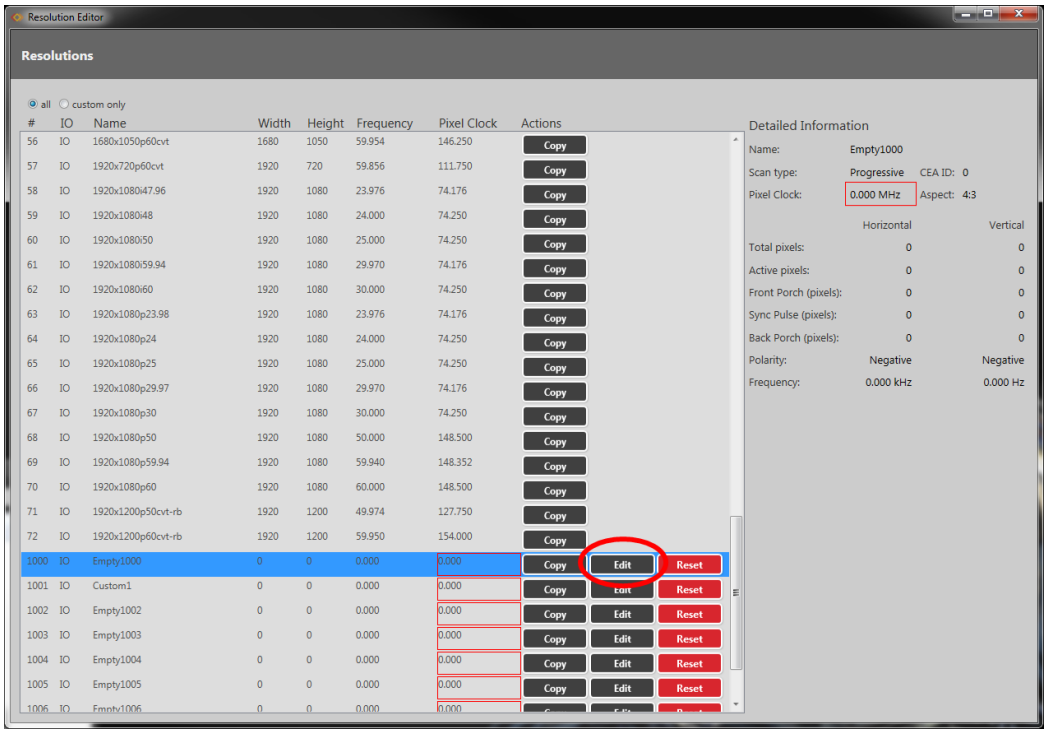
Learn how to setthe **CEAID** (Consumer Electronics Association Digital Television Profile, as defined in CEA-861-D) for a Custom Resolution via the Resolution Editor in CORIOdiscover.

Description

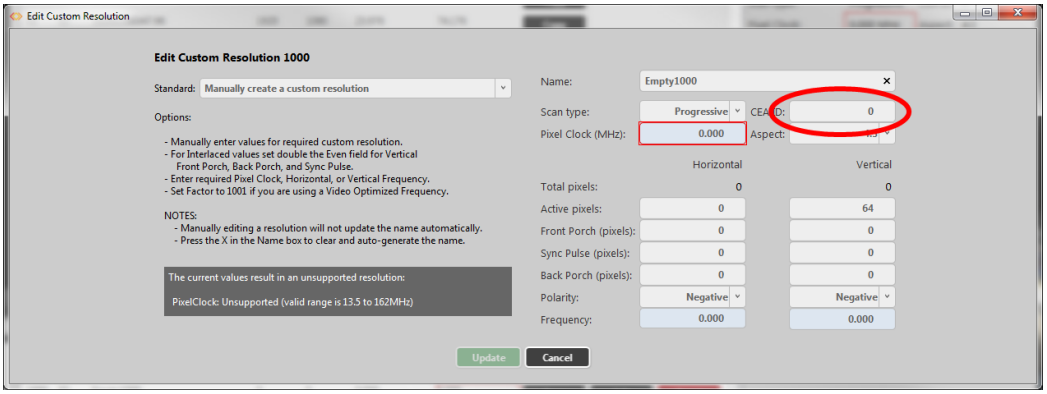
This attribute is to be used only when creating a Custom Resolution as defined in CEA-861-D.

Instructions

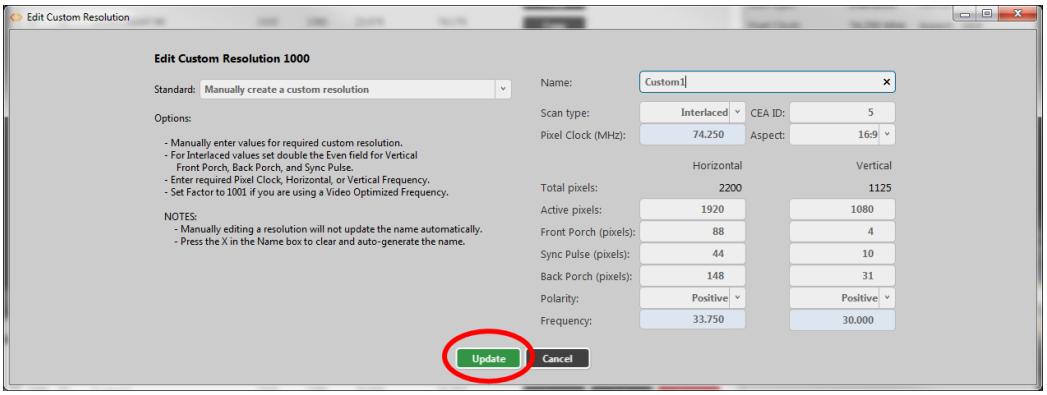
1. From the Resolution Editor window, scroll to the Custom Resolutions section and press the **Edit** button next to the Custom Resolution you want to edit.



2. In the new window, you can edit various properties of the Custom Resolution. In the top right corner, you can type a value into the **CEA ID** field.



3. When you have modified the **CEA ID** as desired, click the **Update** button at the bottom of the window to commit changes and return to the Resolution Editor.



Default

0

Notes

This field value must be 0 or a value specified in the CEA Standard Profile, as defined in CEA-861-D.

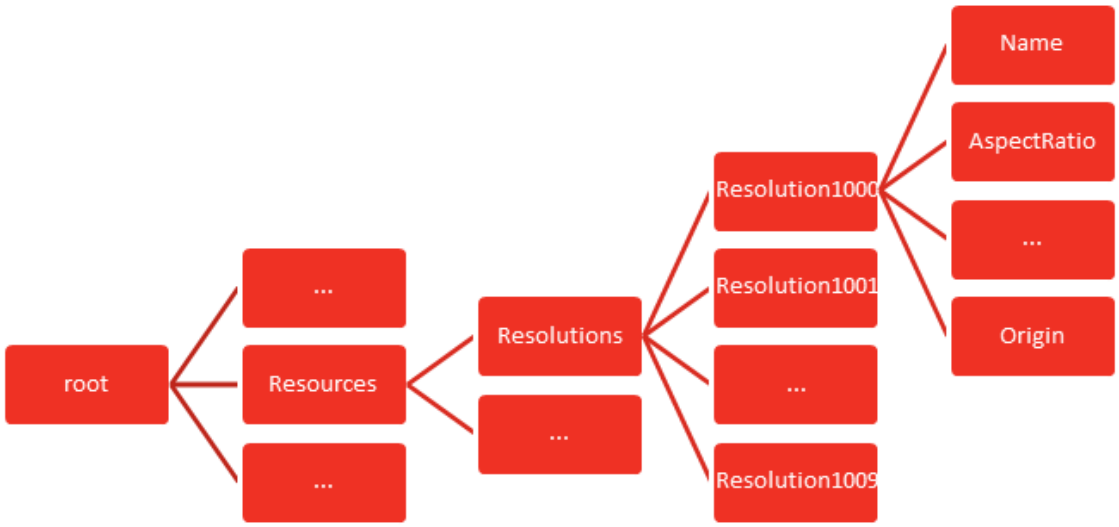
The CEA identifier information option does not affect the Custom Resolution. It is there strictly for providing attached equipment with information on the resolution. When defining a Custom Resolution, only set this value if you are configuring it to comply with the CEA Profile for that value.

Caution: If the value of **CEA ID** is not 0 and the Custom Resolution does not conform to the CEA Profile for that value, the result is undefined and behavior may not be as expected.

Listing Resolutions from Command Line

If you are not confident with the command line interface, please use the GUI provided; however, if you are comfortable with the command line and wish to use it instead of the user interface, the relevant commands are outlined in this and subsequent sections.

The `Resolutions` command (in the `Resources` menu) contains ten Custom Resolutions. Each resolution can be tailored to your exact requirements from the command line by configuring the relevant attributes, outlined below.



Command

`Resources.Resolutions`

Description

Custom Resolutions are accessed from the `Resources` menu, under the `Resolutions` option.

All the built-in and Custom Resolutions configurations may be viewed from this menu; Custom Resolutions can also be modified here.

Built-in Resolutions are numbered sequentially from 1; Custom Resolutions are numbered sequentially from 1000 - the ten Custom Resolution slots available are **Resolution1000** to **Resolution1009** inclusive.

Example

`Resources.Resolutions.Resolution1`

`Resources.Resolutions.Resolution2`

...

```
Resources.Resolutions.Resolution1000
…
Resources.Resolutions.Resolution1009
```

Listing Resolution Properties from Command Line

Various details specific to a resolution are saved on a per-resolution basis. You can view settings for built-in resolutions; you can view and edit settings for Custom Resolutions.

Command

```
Resources.Resolutions.Resolution1
```

Description

List the attributes of this resolution.

Example

For a default resolution:

```
Resources.Resolutions.Resolution1
Resources.Resolutions.Resolution1.Name = 640x480p60
Resources.Resolutions.Resolution1.Aspect = 4:3
Resources.Resolutions.Resolution1.CanFramelock = No
Resources.Resolutions.Resolution1.PixelClock = 25175000
Resources.Resolutions.Resolution1.ScanType = p
Resources.Resolutions.Resolution1.HActive = 640
Resources.Resolutions.Resolution1.HFrontPorch = 16
Resources.Resolutions.Resolution1.HSyncPulse = 96
Resources.Resolutions.Resolution1.HBackPorch = 48
Resources.Resolutions.Resolution1.VActive = 480
Resources.Resolutions.Resolution1.VFrontPorch = 10
Resources.Resolutions.Resolution1.VSyncPulse = 2
Resources.Resolutions.Resolution1.VBackPorch = 33
Resources.Resolutions.Resolution1.HSyncPolarity = N
Resources.Resolutions.Resolution1.VSyncPolarity = N
Resources.Resolutions.Resolution1.CEAID = 1
Resources.Resolutions.Resolution1.Origin = tvONE
!Done Resources.Resolutions.Resolution1
```

For a Custom Resolution:

```
Resources.Resolutions.Resolution1000
```

```
Resources.Resolutions.Resolution1000.Name = MyResolution
Resources.Resolutions.Resolution1000.Aspect = 4:3
Resources.Resolutions.Resolution1000.PixelClock = 111750000
Resources.Resolutions.Resolution1000.ScanType = p
Resources.Resolutions.Resolution1000.HActive = 1920
Resources.Resolutions.Resolution1000.HFrontPorch = 96
Resources.Resolutions.Resolution1000.HSyncPulse = 192
Resources.Resolutions.Resolution1000.HBackPorch = 288
Resources.Resolutions.Resolution1000.VActive = 720
Resources.Resolutions.Resolution1000.VFrontPorch = 3
Resources.Resolutions.Resolution1000.VSyncPulse = 10
Resources.Resolutions.Resolution1000.VBackPorch = 15
Resources.Resolutions.Resolution1000.HSyncPolarity = N
Resources.Resolutions.Resolution1000.VSyncPolarity = P
Resources.Resolutions.Resolution1000.CEAID = 0
Resources.Resolutions.Resolution1000.Origin = Example
!Done Resources.Resolutions.Resolution1000
```

Notes

Custom Resolutions can only be modified; they cannot be created or deleted. If you wish to remove saved details, **Reset** the Custom Resolution to default settings. This is equivalent to deleting, but the slot is still available for future use.

If a Custom Resolution is being used on an output and you change an **Attribute** (other than **Name**), the resolution will be reapplied on the output and the connection to the output device will be renegotiated. If you change the **Name Attribute**, the output will revert to the default built-in resolution.

You can configure a Custom Resolution by copying the values from a similar built-in or Custom Resolution and modifying as needed. See "Creating a Custom Resolution From a Built-In Resolution" on page 161.

Once you have configured a Custom Resolution, use `System.SaveAllSettings()` to ensure that your changes are persistent and not lost after powering off.

Caution: It is possible to apply an invalid Custom Resolution to an output.

Editing Resolution Properties from Command Line

Various details specific to a resolution are saved on a per-resolution basis. You can edit settings for Custom Resolutions. Each property is covered separately.

Editing Name Property from Command Line

Learn how to set a name for a Custom Resolution via the command line.

Command

```
Resources.Resolutions.Resolution1000.Name
```

Description

Lists the user-readable name for this resolution. Set up the name as something meaningful for you, within the limitations of the permissible characters. (See Note below.)

Example

```
Resources.Resolutions.Resolution1000.Name = NewCustomResolution

Resources.Resolutions.Resolution1000.Name = NewCustomResolution

!Done Resources.Resolutions.Resolution1000.Name = NewCustomResolution
```

Default

The default **Name** is the string "`Empty`*NNNN*" where '*NNNN*' is the number of the Custom Resolution. Note that Resolution1000 is "`Empty1000`", Resolution1001 is "`Empty1001`", Resolution1009 is "`Empty1009`" and so forth.

```
Resources.Resolutions.Resolution1000.Name

Resources.Resolutions.Resolution1000.Name = Empty1000

!Done Resources.Resolutions.Resolution1000.Name
```

Notes

The **Name** attribute has the following limitations:

- must be no more than 23 characters
- only valid printable ASCII characters may be used
- must have no spaces (underscore is valid)

The system does not check for duplicate names - if more than one Custom Resolution has the same name, when you set a Custom Resolution of that name to an output, unexpected behavior may result.

If you change the **Name** attribute of a Custom Resolution that you have already set to an output, the output will revert to the default built-in resolution for that output. To continue using the same Custom Resolution with that output, re-apply it to the output.

It is possible to set a Custom Resolution that has not been configured to an output. This is intentional.

If you wish to use a Custom Resolution with CORIOgrapher the **Name** must conform to the following format:

[width]x[height][scantype][rate][optional]

where:

[width]	width in pixels	num
[height]	height in pixels	num
x	the letter x	x
[scantype]	either i for interlaced or p for progressive.	i or p
[rate]	the frame rate (this must be at least one character and may contain a period if relevant)	num
[optional]	any optional text	null or string

-

For example, the following are valid **Name** formats for use with CORIOgrapher:

- 1280x720i40055D
- 1280x720p6test
- 1280x720p59.94
- 1280x720i50
- 280x72i30

Caution: If you use CORIOgrapher with a **Name** that does not conform to the format described above, you may experience unexpected consequences.

Editing Aspect Property from Command Line

Learn how to set the **Aspect** ratio for a Custom Resolution via the command line. This is used on the CORIOmatrix and CORIOmatrix mini to assist in signal conversion when an input and output have different aspect ratio.

Command

```
Resources.Resolutions.Resolution1000.Aspect
```

Description

Lists the **Aspect** ratio for this Custom Resolution in the form width:height (in units of equal size).

Example

```
Resources.Resolutions.Resolution1000.Aspect = 16:6
Resources.Resolutions.Resolution1000.Aspect = 16:6
!Done Resources.Resolutions.Resolution1000.Aspect = 16:6
```

Default

4:3

Notes

Valid available **Aspect** ratios are:

- 16:9
- 4:3
- 5:4
- 16:10
- 5:3
- 1:1
- 16:6

The system cannot accept any other aspect ratios.

Aspect ratios are used on the CORIOmatrix and CORIOmatrix mini only, not on CORIOmaster or CORIOmaster mini.

Listing Framelock Properties from Command Line

Learn how to view the **Can Framelock** attribute for a Custom Resolution via the command line. **Can Framelock** is a read-only attribute indicating whether this Custom Resolution is suitable for use with the Framelock feature.

Command

```
Resources.Resolutions.Resolution1000.CanFramelock
```

Description

This attribute indicates whether a Custom Resolution may be used with the Framelock mechanism.

Yes	The Custom Resolution is compatible with the Framelock mechanism and may be used as either an Input or Output to Framelock.
No	The Custom Resolution is not compatible with the Framelock feature.

Example

```
Resources.Resolutions.Resolution1000.CanFramelock
Resources.Resolutions.Resolution1000.CanFramelock = No
!Done Resources.Resolutions.Resolution1000.CanFramelock
```

Note

An **Input** to Framelock is the source that is to be used as the Framelock reference.

An **Output** to Framelock is to be locked to the reference input.

Currently this is always “No”.

This property is not available in the CORIOdiscover Resolution Editor.

Editing Pixel Clock Property from Command Line

Learn how to set the **Pixel Clock** for a Custom Resolution via the command line.

Command

```
Resources.Resolutions.Resolution1000.PixelClock
```

Description

The **Pixel Clock** value is the speed of the **Pixel Clock** in pixels per second.

The minimum and maximum values are dependent on the following:

p = h * v * f

where:

p	Pixels per second
h	Horizontal total pixels
v	Vertical total pixels
f	Frame rate in frames per second

For example, for 1920x1080p60, h=2200, v=1125, and f=60. This gives p = 2200 * 1125 * 60 = 148.5MHz

Example

```
Resources.Resolutions.Resolution1000.PixelClock = 148500000
Resources.Resolutions.Resolution1000.PixelClock = 148500000
!Done Resources.Resolutions.Resolution1000.PixelClock = 148500000
```

Default

0

Notes

The valid range for the **Pixel Clock** is 13.5MHz to 162MHz. As the value in pixels is a function of resolution (including frame rate), the minimum and maximum value in **Pixel Clock** varies with the resolution.

For example:

The minimum **Pixel Clock** at 640x480p60 is 800 * 525 * 59.94 = 25.175MHz (Note that p60 is nomenclature - the rate is actually 59.94MHz)

The maximum **Pixel Clock** at 1600x1200p60 is 2160 * 1250 * 60 = 162MHz

To calculate the **Vertical Front Porch**, **Vertical Sync Pulse** and **Vertical Back Porch** for an interlaced resolution, double the value of the even field. Interlacing standards are designed this way in order to present the values in a similar format to Progressive values.

In the CORIOdiscover Resolution Editor, the **Horizontal Frequency** and **Vertical Frequency** read-only fields are derived from the **Pixel Clock** value.

Editing Scan Type Property from Command Line

Learn how to set the **Scan Type** for a Custom Resolution via the command line as either `Interlaced` or `Progressive`.

Command

`Resources.Resolutions.Resolution1000.ScanType`

Description

The **Scan Type** state of this Custom Resolution has two options:

`p`	Progressive scan mode
`i`	Interlaced scan mode

Example

```
Resources.Resolutions.Resolution1000.ScanType = i
Resources.Resolutions.Resolution1000.ScanType = i
!Done Resources.Resolutions.Resolution1000.ScanType = i
```

Default

Progressive (`p`)

Notes

Only Progressive (`p`) or interlaced (`i`) are valid options.

Editing Horizontal Active Pixels Property from Command Line

Learn how to set the **Horizontal Active pixels** for a Custom Resolution via the command line.

Command

```
Resources.Resolutions.Resolution1000.HActive
```

Description

The **Horizontal Active** video is the width of the displayed image in pixels.

For example, for a Custom Resolution of 1024x768 this value would be 1024.

Example

```
Resources.Resolutions.Resolution1000.HActive = 1024
Resources.Resolutions.Resolution1000.HActive = 1024
!Done Resources.Resolutions.Resolution1000.HActive = 1024
```

Default

0

Notes

The valid range of values is 64 to 1920.

For a valid Custom Resolution, you must configure this property to a value within the valid range.

In the CORIOdiscover Resolution Editor, the **Pixel Clock**is not affected by any changes to the **Horizontal Active pixels**. However, the **Horizontal Frequency** and **Vertical Frequency** read-only fields vary based on **Horizontal Active pixels** changes.

Editing Horizontal Front Porch Property from Command Line

Learn how to set the **Horizontal Front Porch** for a Custom Resolution via the command line.

Command

```
Resources.Resolutions.Resolution1000.HFrontPorch
```

Description

The **Horizontal Front Porch** is the gap between the end of the Active Video and the start of the **Horizontal Sync Pulse**, in pixels.

Example

```
Resources.Resolutions.Resolution1000.HFrontPorch = 96
```

```
Resources.Resolutions.Resolution1000.HFrontPorch = 96
```

```
!Done Resources.Resolutions.Resolution1000.HFrontPorch = 96
```

Default

0

Notes

The valid range of values is 1 to 2000.

For a valid Custom Resolution, you must configure this property to a value within the valid range.

In the CORIOdiscover Resolution Editor, the **Pixel Clock**is not affected by any changes to the **Horizontal Front Porch**. However, the **Horizontal Frequency** and **Vertical Frequency** read-only fields vary based on **Horizontal Front Porch** changes.

Editing Horizontal Sync Pulse Property from Command Line

Learn how to set the **Horizontal Sync Pulse** for a Custom Resolution via the command line.

Command

```
Resources.Resolutions.Resolution1000.HSyncPulse
```

Description

The **Horizontal Sync Pulse** identifies the start of each row of pixels (line of video) in the Custom Resolution.

Example

```
Resources.Resolutions.Resolution1000.HSyncPulse = 8
```

```
Resources.Resolutions.Resolution1000.HSyncPulse = 8
```

```
!Done Resources.Resolutions.Resolution1000.HSyncPulse = 8
```

Default

0

Notes

The valid range of values is 8 to 500.

For a valid Custom Resolution, you must configure this property to a value within the valid range.

In the CORIOdiscover Resolution Editor, the **Pixel Clock**is not affected by any changes to the **Horizontal Sync Pulse**. However, the **Horizontal Frequency** and **Vertical Frequency** read-only fields vary based on **Horizontal Sync Pulse** changes.

Editing Horizontal Back Porch Property from Command Line

Learn how to set the timing interval for the **Horizontal Back Porch** for a Custom Resolution via the command line.

Command

```
Resources.Resolutions.Resolution1000.HBackPorch
```

Description

The **Horizontal Back Porch** is the gap between end of the **Horizontal Sync Pulse** and the beginning of the Active Video in pixels.

Example

```
Resources.Resolutions.Resolution1000.HBackPorch = 288
```

```
Resources.Resolutions.Resolution1000.HBackPorch = 288
```

```
!Done Resources.Resolutions.Resolution1000.HBackPorch = 288
```

Default

0

Notes

The valid range of values is 1 to 2000.

For a valid Custom Resolution, you must configure this property to a value within the valid range.

In the CORIOdiscover Resolution Editor, the **Pixel Clock**is not affected by any changes to the **Horizontal Back Porch**. However, the **Horizontal Frequency** and **Vertical Frequency** read-only fields vary based on **Horizontal Back Porch** changes.

Editing Horizontal Sync Polarity Property from Command Line

Learn how to set the **Horizontal Synchronization Polarity** for a Custom Resolution via the command line.

Command

```
Resources.Resolutions.Resolution1000.HSyncPolarity
```

Description

The **Horizontal Sync Pulse** is a single short pulse which identifies the start of each row of pixels (line of video) in the Custom Resolution. It can be either **Positive** or **Negative**. This value is the **Horizontal Sync Polarity**.

Example

```
Resources.Resolutions.Resolution1000.HSyncPolarity = N
```

```
Resources.Resolutions.Resolution1000.HSyncPolarity = N
```

```
!Done Resources.Resolutions.Resolution1000.HSyncPolarity = N
```

Default

N

Notes

Only the case-insensitive values `N` (or `n`) for **Negative** and `P` (or `p`) for **Positive** polarity will be accepted.

In the CORIOdiscover Resolution Editor, the **Pixel Clock**is not affected by any changes to the **Horizontal Sync Polarity**. However, the **Horizontal Frequency** and **Vertical Frequency** read-only fields vary based on **Horizontal Sync Polarity** changes.

Editing Vertical Active Pixels Property from Command Line

Learn how to set the **Vertical Active pixels** for a Custom Resolution via the command line.

Command

```
Resources.Resolutions.Resolution1000.VActive
```

Description

The **Vertical Active** video is the height of the displayed image in pixels (lines).

For example, for a Custom Resolution of 1024x768 this value would be 768.

Example

```
Resources.Resolutions.Resolution1000.VActive = 768
```

```
Resources.Resolutions.Resolution1000.VActive = 768
```

```
!Done Resources.Resolutions.Resolution1000.VActive = 768
```

Default

0

Notes

The valid range of values is 64 to 1200.

For a valid Custom Resolution, you must configure this property to a value within the valid range.

In the CORIOdiscover Resolution Editor, the **Pixel Clock**is not affected by any changes to the **Vertical Active pixels**. However, the **Vertical Frequency** read-only field varies based on **Vertical Active pixels** changes.

Editing Vertical Front Porch Property from Command Line

Learn how to set the **Vertical Front Porch** for a Custom Resolution via the command line.

Command

```
Resources.Resolutions.Resolution1000.VFrontPorch
```

Description

The **Vertical Front Porch** is the gap between the end of the Active Video and the start of the **Vertical Sync Pulse**, in pixels.

Example

```
Resources.Resolutions.Resolution1000.VFrontPorch = 3
```

```
Resources.Resolutions.Resolution1000.VFrontPorch = 3
```

```
!Done Resources.Resolutions.Resolution1000.VFrontPorch = 3
```

Default

0

Notes

The valid range of values is 1 to 100.

For a valid Custom Resolution, you must configure this property to a value within the valid range.

To calculate the **Vertical Front Porch**, **Vertical Sync Pulse** and **Vertical Back Porch** for an interlaced resolution, double the value of the even field. Interlacing standards are designed this way in order to present the values in a similar format to Progressive values.

Interlaced Custom Resolutions require that the **Vertical Front Porch** is twice the even field.

For example, a **Vertical Front Porch** of 6 gives:

Odd field:	3.5
Even field:	3

In the CORIOdiscover Resolution Editor, the **Pixel Clock**is not affected by any changes to the **Vertical Front Porch**. However, the **Vertical Frequency** read-only field varies based on **Vertical Front Porch** changes.

Editing Vertical Sync Pulse Property from Command Line

Learn how to set the **Vertical Sync Pulse** for a Custom Resolution via the command line.

Command

```
Resources.Resolutions.Resolution1000.VSyncPulse
```

Description

The **Vertical Sync Pulse** identifies the start of each frame of video in the Custom Resolution.

Note that for **Interlaced** Custom Resolutions both odd and even frames will have a **Vertical Sync Pulse**.

Example

```
Resources.Resolutions.Resolution1000.VSyncPulse = 2
Resources.Resolutions.Resolution1000.VSyncPulse = 2
!Done Resources.Resolutions.Resolution1000.VSyncPulse = 2
```

Default

0

Notes

The valid range of values is 1 to 100.

For a valid Custom Resolution, you must configure this property to a value within the valid range.

To calculate the **Vertical Front Porch**, **Vertical Sync Pulse** and **Vertical Back Porch** for an interlaced resolution, double the value of the even field. Interlacing standards are designed this way in order to present the values in a similar format to Progressive values.

Interlaced Custom Resolutions require that the **Vertical Sync Pulse** is twice the even field.

For example, a **Vertical Sync Pulse** of 10 gives:

Odd field:	5
Even field:	5

In the CORIOdiscover Resolution Editor, the **Pixel Clock**is not affected by any changes to the **Vertical Sync Pulse**. However, the **Vertical Frequency** read-only field varies based on **Vertical Sync Pulse** changes.

Editing Vertical Back Porch Property from Command Line

Learn how to set the timing interval for the **Vertical Back Porch** for a Custom Resolution via the command line.

Command

```
Resources.Resolutions.Resolution1000.VBackPorch
```

Description

The **Vertical Back Porch** is the gap between end of the **Vertical Sync Pulse** and the beginning of the Active Video in pixels.

Example

```
Resources.Resolutions.Resolution1000.VBackPorch = 15
```

```
Resources.Resolutions.Resolution1000.VBackPorch = 15
```

```
!Done Resources.Resolutions.Resolution1000.VBackPorch = 15
```

Default

0

Notes

The valid range of values is 1 to 100.

For a valid Custom Resolution, you must configure this property to a value within the valid range.

To calculate the **Vertical Front Porch**, **Vertical Sync Pulse** and **Vertical Back Porch** for an interlaced resolution, double the value of the even field. Interlacing standards are designed this way in order to present the values in a similar format to Progressive values.

Interlaced Custom Resolutions require that the **Vertical Back Porch** is twice the even field.

For example, a **Vertical Back Porch** of 69 gives:

Odd field:	34
Even field:	34.5

In the CORIOdiscover Resolution Editor, the **Pixel Clock**is not affected by any changes to the **Vertical Back Porch**. However, the **Vertical Frequency** read-only field varies based on **Vertical Back Porch** changes.

Editing Vertical Sync Polarity Property from Command Line

Learn how to set the **Vertical Synchronization Polarity** for a Custom Resolution via the command line.

Command

```
Resources.Resolutions.Resolution1000.VSyncPolarity
```

Description

The **Vertical Sync Pulse**separates the video fields in the Custom Resolution. It can be either **Positive** or **Negative**. This value is the **Vertical Sync Polarity**.

Example

```
Resources.Resolutions.Resolution1000.VSyncPolarity = N

Resources.Resolutions.Resolution1000.VSyncPolarity = N

!Done Resources.Resolutions.Resolution1000.VSyncPolarity = N
```

Default

N

Notes

Only the case-insensitive values `N` (or `n`) for **Negative** and `P` (or `p`) for **Positive** polarity will be accepted.

In the CORIOdiscover Resolution Editor, the **Pixel Clock**is not affected by any changes to the **Vertical Sync Polarity**. However, the **Vertical Frequency** read-only field varies based on **Vertical Sync Polarity** changes.

Editing CEAID Property from Command Line

Learn how to set the **CEAID** (Consumer Electronics Association Digital Television Profile, as defined in CEA-861-D) for a Custom Resolution via the command line.

Command

```
Resources.Resolutions.Resolution1000.CEAID
```

Description

This attribute is to be used only when creating a Custom Resolution as defined in CEA-861-D.

Example

```
Resources.Resolutions.Resolution1000.CEAID = 0
Resources.Resolutions.Resolution1000.CEAID = 0
!Done Resources.Resolutions.Resolution1000.CEAID = 0
```

Default

0

Notes

This field value must be 0 or a value specified in the CEA Standard Profile, as defined in CEA-861-D.

The CEA identifier information option does not affect the Custom Resolution. It is there strictly for providing attached equipment with information on the resolution. When defining a Custom Resolution, only set this value if you are configuring it to comply with the CEA Profile for that value.

Caution: If the value of **CEAID** is not 0 and the Custom Resolution does not conform to the CEA Profile for that value, the result is undefined and behavior may not be as expected.

Editing Origin Property from Command Line

Learn how to set the **Origin** for a Custom Resolution via the command line, to provide a string identifying the origin of the Custom Resolution.

Command

```
Resources.Resolutions.Resolution1000.Origin
```

Description

Set the user-readable **Origin** property to something meaningful for you, within the limitations of the permissible characters. For example, if you create a Custom Resolution from the CVT list, it may be useful to have "CVT" in this field; for a CEA Standard Profile it may be useful to have "CEA".

Example

```
Resources.Resolutions.Resolution1000.Origin = Example
Resources.Resolutions.Resolution1000.Origin = Example
!Done Resources.Resolutions.Resolution1000.Origin = Example
```

Default

The default **Origin** is an empty, zero-length string:

```
Resources.Resolutions.Resolution1000.Origin
Resources.Resolutions.Resolution1000.Origin =
!Done Resources.Resolutions.Resolution1000.Origin
```

Notes

The Origin attribute has the following limitations:

- must be no more than 19 characters
- only valid printable ASCII characters may be used
- must have no spaces (underscore is valid)

This property is not available in the CORIOdiscover Resolution Editor.

Command Line Resolution Options

List Usable Resolutions by Name

Get a list of the usable resolutions for a given slot.

Command

```
Slots.Slot1.Module_Resolutions()
```

(In this case, Slot 1 is used as an example - any valid slot number can be used in that context.)

Description

List all the usable resolutions.

Example

```
Slots.Slot16.Module_Resolutions()
640x480p60;4:3;
640x480p72;4:3;
...
1920x1200p50cvt-rb;16:10;
1920x1200p60cvt-rb;16:10;
MyResolution;16:6
!Done Slots.Slot16.Module_Resolutions()
```

Default

A list of all the built-in resolutions.

Notes

These resolutions are for use with input or output modules.

List Resolutions by Index

Get a list of the output resolutions by index (resolution name)

Command

```
Slots.Slot16.Resolutions
```

(In this case, Slot 16 is used as an example - any valid slot number can be used in that context.)

Description

List all the resolutions.

Example

```
Slots.Slot16.Resolutions
Slots.Slot16.Resolutions.Resolution1 = <...>
Slots.Slot16.Resolutions.Resolution2 = <...>
…
Slots.Slot16.Resolutions.Resolution71 = <...>
Slots.Slot16.Resolutions.Resolution72 = <...>
Slots.Slot16.Resolutions.Resolution1000 = <...>
Slots.Slot16.Resolutions.Resolution1001 = <...>
…
Slots.Slot16.Resolutions.Resolution1009 = <...>
!Done Slots.Slot16.Resolutions
```

Default

A list of all the resolutions.

Notes

For use with output modules only.

Read Output Resolution

Read which resolution is currently set for an output.

Command

```
Slots.Slot16.Out1.Resolution
```

(In this case, Slot 16 and Out 1 are used as an example - any valid slot number and output number can be used in that context.)

Description

Reads the resolution currently set for an output.

Example

```
Slots.Slot16.out1.Resolution
Slots.Slot16.out1.Resolution = NewCustomResolution
!Done Slots.Slot16.out1.Resolution
```

Default

1280x720p60

Notes

If the properties of the Custom Resolution are changed, then the resolution will be reapplied on the output and the connection to the output device will be renegotiated.

If the **Name** of a Custom Resolution is changed, then the output will return to its default and you will need set the output to the new Custom Resolution **Name**.

If more than one Custom Resolution has the same name, when you set a Custom Resolution of that name to an output, unexpected behavior may result.

Custom Resolutions cannot be applied to an SDI output.

Specific Resolutions by Index

Get information on a specific output resolution by index (resolution name).

Command

```
Slots.Slot16.Resolutions.Resolution1000
```

(In this case, Slot 16 and Resolution 1000 are used as an example - any valid slot number and resolution number can be used in that context.)

Description

Lists the following attributes of the specified Resolution:

- **Name**
- **Aspect**
- **CanFramLock** ("Can Framelock")

Example

For a built-in resolution:

```
Slots.Slot16.Resolutions.Resolution1
Slots.Slot16.Resolutions.Resolution1.Name = 640x480p60
Slots.Slot16.Resolutions.Resolution1.Aspect = 4:3
Slots.Slot16.Resolutions.Resolution1.CanFramelock = No
!Done Slots.Slot16.Resolutions.Resolution1
```

For a Custom Resolution:

```
Slots.Slot16.Resolutions.Resolution1000
```

```
Slots.Slot16.Resolutions.Resolution1000.Name = MyResolution
Slots.Slot16.Resolutions.Resolution1000.Aspect = 4:3
Slots.Slot16.Resolutions.Resolution1000.CanFramelock = No
!Done Slots.Slot16.Resolutions.Resolution1000
```

Default

The configuration of the specified resolution.

Notes

For use with output modules only.

Set Output Resolution

Set which resolution an output will use.

Command

```
Slots.Slot16.Out1.Resolution = 1280x720p60
```

(In this case, Slot 16, Out 1, and 1280x720p60 are used as an example - any valid slot number, output number, and resolution can be used in that context.)

Description

Sets the resolution to be used for an output.

Example

```
Slots.Slot16.out1.Resolution = Empty1
Slots.Slot16.out1.Resolution = Empty1
!Done Slots.Slot16.out1.Resolution = Empty1
```

Default

1280x720p60

Notes

If the properties of the Custom Resolution are changed, then the resolution will be reapplied on the output and the connection to the output device will be renegotiated.

If the **Name** of a Custom Resolution is changed, then the output will return to its default and you will need set the output to the new Custom Resolution **Name**.

If more than one Custom Resolution has the same name, when you set a Custom Resolution of that name to an output, unexpected behavior may result.

Custom Resolutions cannot be applied to an SDI output.

Read Input Resolution

Read the reported resolution for an input.

Command

`Slots.Slot1.In1.Set_Resolution` or `Slots.Slot1.In1.Measured_Resolution`

(In this case, Slot 1 and In 1 are used as an example - any valid slot number and input number can be used in that context.)

Description

Reads the currently detected resolution on an input.

Example

```
Slots.Slot1.In1.Set_Resolution
Slots.Slot1.In1.Set_Resolution = NewCustomResolution
!Done Slots.Slot1.In1.Set_Resolution
```

or

```
Slots.Slot1.In1.Measured_Resolution
Slots.Slot1.In1.Measured_Resolution = NewCustomResolution
!Done Slots.Slot1.In1.Measured_Resolution
```

Default

n/a - the behavior is to show the name of the detected resolution or nothing if no signal is detected.

Notes

`Set_Resolution` and `Measured_Resolution` are duplicate commands and produce identical results.

If a Custom Resolution and a built-in resolution are both within the selection tolerance, the Custom Resolution will be selected.

Custom Resolutions cannot be detected on an SDI input.

Command Line - Resolutions

Resolutions are used in the **Slot** menu for both inputs and outputs. However, it is only possible to set a Resolution on an output. Input Resolutions are read-only - the values are set by the incoming video signal.

Note that when detecting input resolutions, if both a Custom Resolution and a built-in Resolution are within the selection tolerance, then the Custom Resolution will be selected.

Use Custom Resolution on an Output

The Resolution used by an output is set using the `Resolution` attribute - see "Set Output Resolution" on page 237.

The steps involved in using a Custom Resolution on an output are:

1. Set up a Custom Resolution with appropriate details for the output you wish to use.

2. Connect a display that supports the signal as described in your Custom Resolution.

3. Set the Custom Resolution for the desired slot and output.

Example

```
Slots.Slot16.out1.Resolution = MyResolution

Slots.Slot16.out1.Resolution = MyResolution

!Done Slots.Slot16.out1.Resolution = MyResolution
```

Use Custom Resolution on an Input

The Resolution of an input is detected automatically. If a Custom Resolution and a built-in resolution are both within the selection tolerance, the Custom Resolution will be selected.

The steps involved in using a Custom Resolution on an input are:

1. Set up a Custom Resolution with appropriate details for the source you wish to use.

2. Connect the source that has the matching signal as described in your Custom Resolution.

3. Check that the Custom Resolution is detected correctly with either the `Measured_Resolution` or `Set_Resolution` as described in "Read Input Resolution" on the previous page.

Example

```
Slots.Slot1.In1.Measured_Resolution

Slots.Slot1.In1.Measured_Resolution = MyResolution

!Done Slots.Slot1.In1.Measured_Resolution
```

Troubleshooting

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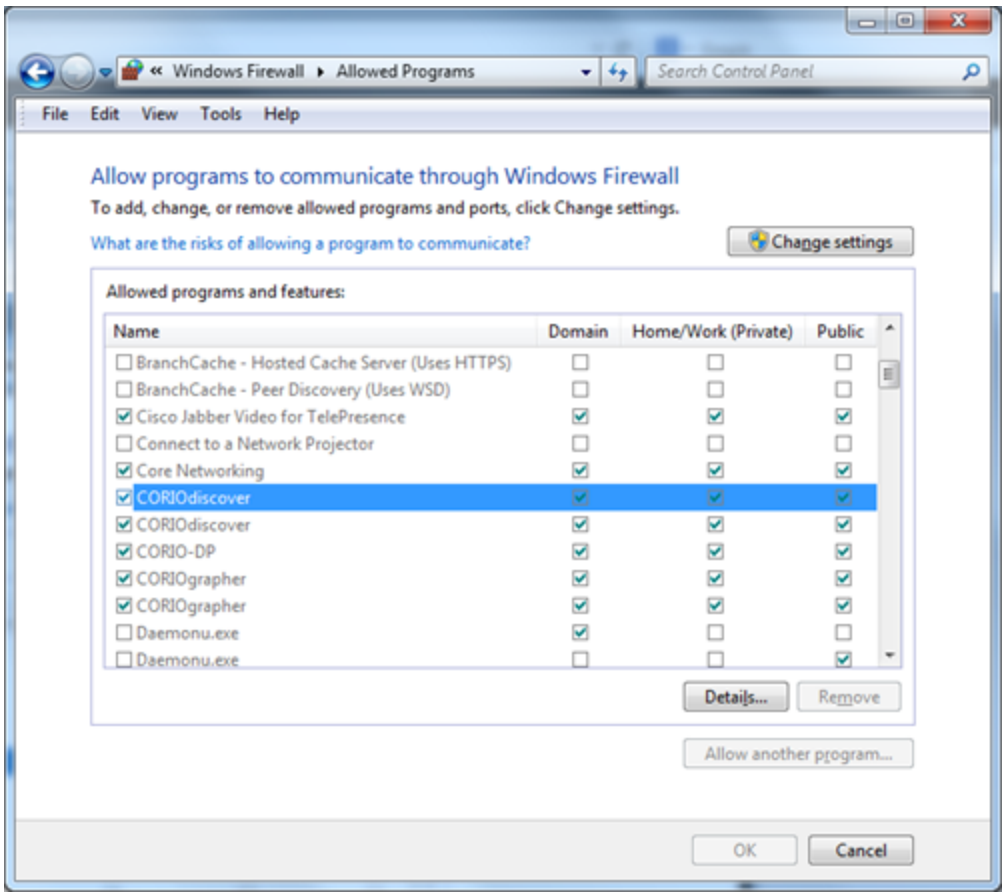
Troubleshooting - CORIOdiscover Doesn't See Device

The CORIOdiscover program finds any CORIOmatrix units located on the same subnet (even if the network is just your PC and the CORIOmatrix connected directly by an Ethernet cable).

If you are trying to connect to your CORIOmatrix using the CORIOdiscover application but your CORIOmatrix does not appear in the list of discovered devices, follow these steps to troubleshoot the issue.

1. If possible, verify that the CORIOmatrix you are trying to connect to is running the latest firmware. If the unit is running older firmware, it will not be compatible with the CORIOdiscover application. Install the most recent available firmware on the CORIOmatrix and then connect it to the network again.
2. Ensure that both the computer and the CORIOmatrix are on the same subnet, and that your router is not blocking any UDP ports as these are needed for communications with the device.
3. Check your Windows Firewall settings and make sure that CORIOdiscover is not blocked. To do this:

1. Go to **Control Panel** > **Windows Firewall**.
2. Choose **Allow a program or feature through Windows Firewall**.



3. Find CORIOdiscover in the list and put a checkmark to allow it.
4. Click OK to save changes.

4. If you are connecting directly to the CORIOmatrix with just an Ethernet cable, make sure your computer's Ethernet port is autosensing (has Auto MDI-X capability) and does not require an Ethernet crossover cable.

Troubleshooting - Doesn't Reconnect After Restore

Normally when you restore your settings from the SD card, the unit will load the settings and restart with the new settings in place. (See "Restore from SD Card" on page 66 for details.)

In some cases, when you are restoring settings from a backup on the SD card, have the unit configured to use a DHCP address and you are using Chrome, Firefox, or Safari, the login page does not appear and instead the browser tells you it cannot access that IP address.

If this happens, the process goes as expected up to the point that the unit restarts:

After sitting at this progress bar for a while, your browser reports that it couldn't connect to the IP address. You may note that the IP address is not the DHCP IP address the unit had been using previously; it is a self-assigned IP address such as 192.168.0.10.

If this occurs, you need to type the DHCP IP address of the CORIOmatrix into the address bar of your browser. Once you point your browser at the correct IP address, you will be able to connect as expected to the unit, which now has restored settings.

Troubleshooting - Slot Name Goes Blank

Slot aliases must be unique strings.

If you change a slot alias to be the same as another slot (for example, rename s1i2 to be "s1i1"), after saving the name, the original slot with that name will now have a blank name field. (In the aforementioned example, the original s1i1 would now have no name.) To resolve the issue, you would then need to rename the blank-named slot to a unique alias.

Troubleshooting - Website Looks Wrong

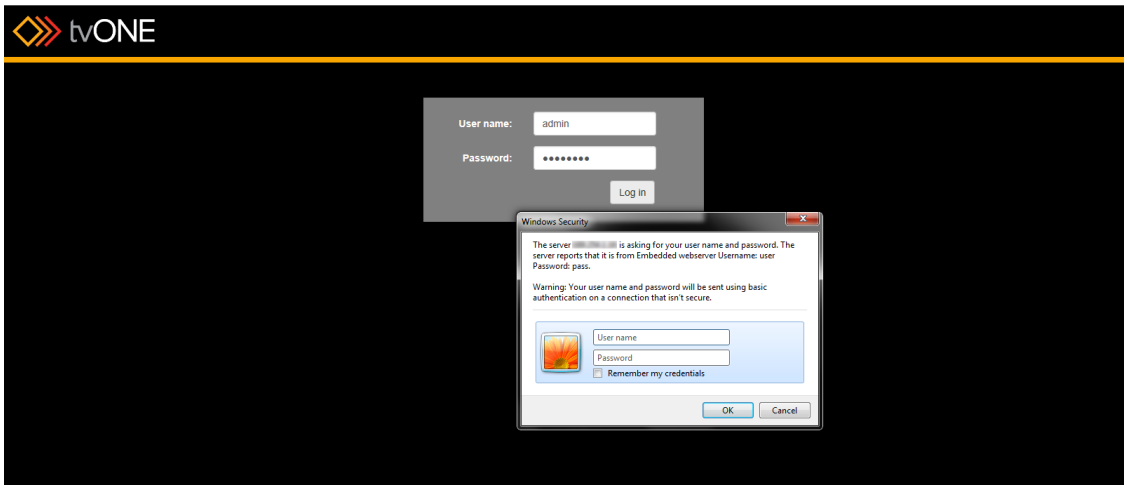
If you log in to the CORIOmatrix Web UI and find that it doesn't display correctly, there are a number of steps to take to resolve the issue. Try these in order - if the first step does not resolve the issue, go to the next step, and so forth.

1. Make sure you are using a supported browser. See "Supported Browsers" on page 36 for a complete list. Unsupported browsers will perform in unpredictable ways; some may not let you log in at all; some may display the login page but not progress to the Routing page; some may show the routing page but other elements of the interface may not perform correctly.
2. If you are using a supported browser but the Routing page still does not display correctly, reload the page by using the F5 key or the Reload button in the address bar.
3. If a simple refresh does not resolve the issue, force refresh the page by using the Ctrl-F5 combination or hold down the Shift key while pressing the Reload button (Control key plus Reload button in Internet Explorer) in the address bar.
4. If none of the above steps resolves the issue, try using a different supported browser to see if the issue persists.

The above steps resolve the vast majority of login issues. If none of these steps help, please contact tvONE Technical Support for assistance.

Troubleshooting - Windows Security Alert on Login

If you try to log in to the CORIOmatrix Web UI and a Windows Security alert pops up, you may have the incorrect password stored in your web browser.



If you experience this issue, log in with the correct username and password, and if you are allowing the browser to save login information (not recommended unless you are on a secure computer), save the retyped, correct password.

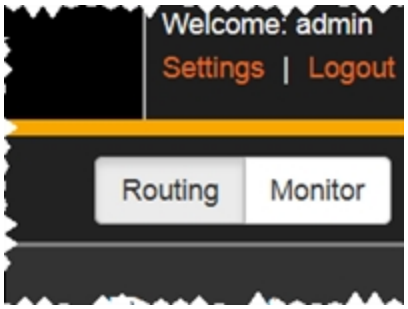
Troubleshooting - Output Displays Go Blank After Changing Resolution

If you are changing the resolution of an output, you may find that approximately three seconds after committing the new resolution, all outputs go black for a short time.

This is normal behavior as they are attempting to renegotiate Framelock.

Troubleshooting - No monitor card output

If your CORIOmatrix has a monitor card installed, you have a Monitor button in the top right corner of the Routing page, next to the Routing button:



If you have connected a display to your monitor card and are not seeing any output, try these steps, in order, to resolve the issue:

1. Check the web interface to make sure you can see a Monitor button on the routing page, and can access the Monitor page. If this button is not visible, the card may be incorrectly installed or defective as it is not recognised by the system.
2. If the monitor card is present and the Monitor page seems to be working fine, check your cable connection to the display and power to the display to make sure signal is going out.
3. If the display is a known good display and has power, the monitor card is a known good card and is recognized by the system, you may need to change the output settings to something that is compatible with the display. This cannot be done through the web interface, but follow the instructions below to change the output settings.

Changing Monitor Card Output Settings

Pre-work:

- Ensure you have a terminal-style application (HyperTerminal or an alternative) in order to access the CORIOmatrix via command line.
- Identify which slot contains the monitor card. See "Input and Output Naming Convention" on page 34 for information about slot names and physical locations. Additionally, identify which output on the card is connected to the display.
- Determine the default resolution and refresh rate for the monitor you are attempting to connect to.

When you have the necessary information and terminal application installed, follow these steps:

1. Connect to the CORIOmatrix via IP (each application has its own methodology of configuring a connection - for assistance, see the documentation provided with that program).

2. When you are connected, you will receive the following from the CORIOmatrix:

```
// ==================
//  CORIOmatrix mini - CORIOmax
// ==================
// Command Interface Ready
Please login. Use 'login(username,password)'
_
```

3. Log in by typing the following:
   `login(admin,adminpw)`
   and press Return or Enter.
   (If you have changed the administrator password, use the appropriate password in place of the text `adminpw` above.)
4. In the command line in your terminal application, below the words "!Info : User admin Logged In", type the command to change resolution for the appropriate output slot. In the example below, the monitor card is in slot 6 and we are using output 1, changing the resolution to the monitor's default of 720 x 576 p 50. Replace the slot and output number and resolution with the appropriate information for your configuration:
   `slot6.out1.resolution = 720x576p50`
5. After typing this and pressing return, the system will return a line starting with !Done.
6. To save this change, type
   `System.SaveAllSettings()`
   and press Return or Enter. The system returns "!Done System.SaveAllSettings()". At this point you can disconnect from the command-line connection and the monitor card will be using the resolution you just configured.