

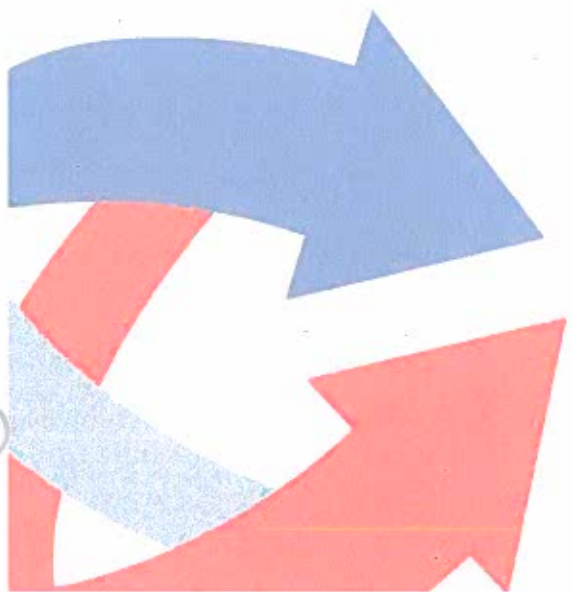


# DOCUMENTACION TECNICA



**SANTO DOMINGO**  
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Algunos Proyectos realizados por IQtek Solutions, S.R.L.  
desde el año 2013 hasta la fecha



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## 1. Clientes de Referencia

Nuestro Personal ha trabajado en la implementación y Diseño de los Proyectos más grandes de realizados en República Dominicana, además de otros proyectos de tecnología. Adicional a esto somos el Partner de Cisco número 1 en implementaciones de la solución de CISCO UCS y NEXUS. Algunos de los clientes en los cuales hemos trabajado diferentes proyectos y soluciones:

- **Banco Reservas**



- **Proyectos:**

- **Proyecto FLEXPOD (NETAPP, CISCO UCS BLADE, VMWARE, NEXUS 5500):** Proyecto de Data Center con la solución de FLEXPOD con 170TB en el Site Principal y 50TB en el SITE Alterno en modalidad HA. Se implementó con la Solución de Servidores en Chasis Cisco Serie B. Es el Flexpod más grande de República Dominicana.
- **Proyecto implementación de CORE Switches Site Principal y Site Secundario:** Proyecto de Data Center con la solución Cisco Nexus 7710 (pareja para cada Site) con OTV configurado.
- **Implementación de Solución de Backup de NETAPP SNAPMANAGER, SNAPVAULT, SNAPPROTECT.**

- **Contacto:** Rhonny Estévez  
**Director de Tecnología**

- **Teléfono:** 809-501-9327

- **Email:** [rmestevez@banreservas.com](mailto:rmestevez@banreservas.com)

- **Banco Popular**



- **Proyectos:**

- **Proyecto NEXUS 7000:** Proyecto de NEXUS 7000 y Upgrade de la Plataforma de NEXUS del SITE ALTERNO en Los Datacenters del Banco Popular Dominicano.

- **Contacto:** Samuel Abad  
**Líder Técnico del Datacenter**

- **Teléfono:** 809-604-2079



➤ Email: [sabad@bpd.com.do](mailto:sabad@bpd.com.do)



• **Páginas Amarillas**

- **Páginas Amarillas Republica Dominicana:** Servidores Blade Cisco, NEXUS 5672. para DATACENTER Principal. Virtualización con VMWARE.
- **AXESA (Páginas Amarillas Puerto Rico):** Proyecto de Virtualización, Servidores Blade Cisco, NEXUS 5672. Proyecto de Virtualización y Servidores Blade Cisco para DATACENTER Principal. Virtualización con VMWARE.

- **Contacto:** Arturo Manzueta
- **Teléfono:** 809-220-3100 ext. 2357
- **Email:** [a.manzueta@paginasamarillas.com.do](mailto:a.manzueta@paginasamarillas.com.do)

• **Universidad Central del Este (UCE)**

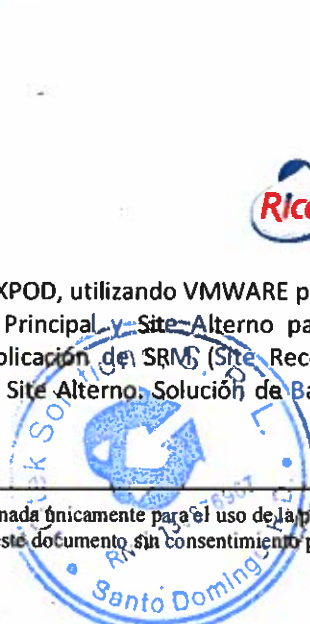


- **Proyectos:**
  - **Switches de CORE 4500.** Proyecto DATA CENTER PRINCIPAL y DATA CENTER ALTERNO.
  - **Implementación de Virtualización VMWARE. FLEXPOD con NETAPP, Servidores Cisco UCS Serie C. Plataforma de BACKUP, VMWARE.**
- **Contacto:** Edwin Ediezel Rosa Muñoz
- **Teléfono:** 809 529 3562, Ext. 2162
- **Email:** [erosa@uce.edu.do](mailto:erosa@uce.edu.do)

• **Grupo RICA**



- **Proyectos:**
  - **Proyecto DATA CENTER:** Implementación de FLEXPOD, utilizando VMWARE para la virtualización. Solución de NETAPP en el Site Principal y Site Alternativo para el Almacenamiento, Solución de Cisco NEXUS. Aplicación de SRM (Site Recovery Manager) para la manejar la recuperación en el Site Alternativo. Solución de Backup




SNAPMANAGER for Virtual Infrastructure, SNAPVAULT, VCENTER, VCENTER Operation Manager.

- **Contacto:** David Rodriguez  
**Gerente de Tecnología.**
- **Teléfono:** 809-563-7422 ext. 2214
- **Email:** [da.rodriguez@gruporica.com](mailto:da.rodriguez@gruporica.com)

- **Banco BHD León**

- **Proyectos:** 
- **Proyecto Consultoría para Replicación Data Center Principal y Data Center Alterno.**
- **Proyecto de NEXUS 7710 para el Data Center Principal y el Data Center Alterno.**
- **Contacto:** Andy Cuello, Gerente Telecomunicaciones y Servicios
- **Teléfono:** Oficina: 809-243-5244/ Celular: 829-420-2275
- **Email:** [andy\\_cuello@bhdleon.com.do](mailto:andy_cuello@bhdleon.com.do)

- **Plaza de la Salud**

- **Proyectos:** 
- **Proyecto Acondicionamiento de Data Center. Implementación de Cisco NEXUS 5672 con 2 Extender.**
- **Contacto:** Daniel Paniagua
- **Teléfono:** 809-723-6094
- **Email:** [dpaniagua@hgps.org.do](mailto:dpaniagua@hgps.org.do)

- **Asociación Popular de Ahorros y Préstamos**

- **Proyectos:** 



- **Proyecto Migración de Nortel a Cisco: CORE, Server Farm y acceso de oficina principal y sucursales.** Implementación de Cisco NEXUS 9300 como CORE Switch y FEX 2300 acceso a servidores. Nexus 3000 para el Data Center alterno.

- **Contacto:** Daniel Santos Grullón
- **Teléfono:** 809-689-0171, ext. 3012 , Celular: 829-257-2943
- **Email:** [dansantos@apap.com.do](mailto:dansantos@apap.com.do)

- **ARS Palic**



- **Proyectos:**
  - **Proyecto Migración de Nortel a Cisco: CORE, Server Farm y acceso de oficina principal y sucursales.** Implementación de Cisco NEXUS 9300 como CORE Switch.
- **Contacto:** Omar Garcia
- **Teléfono:** 829-451-8944
- **Email:** [omar\\_garcia@arspalic.com.do](mailto:omar_garcia@arspalic.com.do)

- **Banco Promerica**

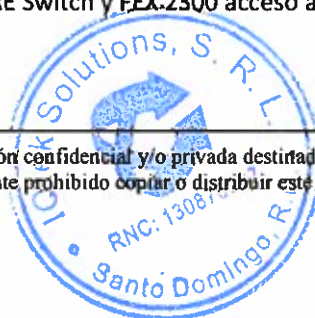


- **Proyectos:**
  - **Proyecto Migración del Catalyst 4500 a Nexus 9200.** Implementación de Cisco NEXUS 9200 como CORE Switch y Catalyst 3800 acceso a servidores.
- **Contacto:** José Vasquez
- **Teléfono:** 829-257-4777
- **Email:** [jvasquez@promerica.com.do](mailto:jvasquez@promerica.com.do)

- **Asociación La Nacional de Ahorros y Préstamos**



- **Proyectos:**
  - **Proyecto Migración del Catalyst 4500 a Nexus 9300.** Implementación de Cisco NEXUS 9300 como CORE Switch y FEX.2300 acceso a servidores.
- **Contacto:** Bertha Sanlate



- Teléfono: 809-747-8036
- Email: [bsanlate@alnap.com.do](mailto:bsanlate@alnap.com.do)

- **Banco Santa Cruz**



- **Proyectos:**
  - **Proyecto Reestructuración Backbone.** Implementación de Cisco NEXUS 9300 como CORE Switch y FEX 2300 acceso a servidores.
- **Contacto:** Samuel Francisco
- **Teléfono:** 809-604-3550
- **Email:** [sfrancisco@bsc.com.do](mailto:sfrancisco@bsc.com.do)

- **EDENORTE**



- **Proyectos:**
  - **Proyecto Migración CORE.** Migración de CORE Catalyst 4500 a Cisco NEXUS 5600 como CORE Switch y FEX 2000 acceso a servidores.
- **Contacto:** Tabaré Alvarez Malagón
- **Teléfono:** 809 747 7669
- **Email:** [RALvarezM@edenorte.com.do](mailto:RALvarezM@edenorte.com.do)

- **Gerdau Metaldom**



- **Proyectos:**
  - **Proyecto Migración de Enterasys a Cisco Nexus: CORE, Server Farm y acceso de oficina principal y sucursales.** Implementación de Cisco NEXUS 9300 como CORE Switch y FEX 2300 acceso a servidores. Nexus 9300 para el Data Center alterno.
- **Contacto:** Grissell López
- **Teléfono:** 809-987-7427
- **Email:** [glopez@gerdaumetaldom.com](mailto:glopez@gerdaumetaldom.com)



- **Asociación Cibao de Ahorros y Prestamos**



- **Proyectos:**

- **Proyecto Migración de Catalyst 4500 a Cisco Nexus: CORE y Server Farm.** Implementación de Cisco NEXUS 9300 como CORE Switch y FEX 2300 acceso a servidores.

- **Contacto:** Samuel Sánchez

- **Teléfono:** 809-796-7591

- **Email:** [ssanchez@acap.com.do](mailto:ssanchez@acap.com.do)

- **Dirección General de Contrataciones Públicas**



- **Proyecto:**

- **Instalación, implementación y transferencia de conocimientos Equipo UTM** marca Fortinet.

- **Contacto:** Reiner A. Campillo Terrero

- **Teléfono:** 809-682-7407, ext. 3240

- **Email:** [rcampillo@dgcp.gov.do](mailto:rcampillo@dgcp.gov.do)

- **Sistema Nacional de Atención a Emergencias y Seguridad 9-1-1**



- **Proyectos:**



- **Adquisición de Equipamiento Tecnológico Data Center Zona Norte**, incluyendo instalación, configuración y puesta en marcha.
- **Adquisición de Equipos de Telecomunicaciones del 9-1-1**, como son: Switches Cisco (Proceso de Referencia 911-CCC-PE-2016-07), Contrato y O/C adjuntos.
- **Adquisición de Equipamiento y Licenciamiento**, como son: Discos Duros, Power Supply, DIMM de Memoria Regletas o ATS, Monitores, Heatsets, Licencias de Microsoft, Patch Cord y Solución de 120 Salidas de Cableado Estructurado Categoría 6A (Proceso de Referencia 911-CCC-LPN-2016-01), Contrato adjunto.
- **Adquisición, Instalación y puesta en marcha de la Solución de Cableado Estructurado de Alta Disponibilidad (1,114 salidas), Telefonía IP y Seguridad Lógica de la Sede Norte del 9-1-1** (Proceso de Referencia: 911-CCC-LPN-2016-09), Contrato adjunto.
- **Instalación e Implementación Equipo UTM marca Fortinet.**
- **Adquisición, Instalación, Configuración y Puesta en Marcha Equipos de Conectividad para las Sedes y Centros de Acopio.**
- **Adquisición de Equipos de Comunicación.**
- **Suscripción de Soporte Cisco SmartNet Total Care Cisco Switch WS-C3750X-48P-E/WS-C3750X-24P-E**, Suscripción de Soporte Cisco SmartNet Total Care Cisco Catalyst WS-C6506-E y Suscripción de Soporte Cisco SmartNet Total Care Cisco Switch WS-23750V2-48TS (Proceso de Referencia: **911-CCC-PE-2016-15**).
- **Adquisición: Servidores y Firmas para el Sistema de Detección de Intrusos (IDS)** del Sistema Nacional de Atención a Emergencias y Seguridad 9-1-1. Proceso de Licitación Pública Nacional No. 911-CCC-LPN-2016-11.
- **Adquisición: Componentes de Repuestos para puntos de Cámaras de Video Vigilancia** del Sistema Nacional de Atención a Emergencias y Seguridad 9-1-1. Proceso de Licitación Pública Nacional No. 911-CCC-LPN-2017-08.

- **Contacto:** Cinthya Montes de Oca, Encargada de Compras y Contrataciones
- **Teléfono:** 809-688-9911, Ext. 1326
- **Email:** [Cinthya.Montesdeoca@911.gob.do](mailto:Cinthya.Montesdeoca@911.gob.do)



- **Instituto Nacional de Formación Técnico Profesional - INFOTEP**



- **Proyecto:**

- **Adquisición de Equipos Informáticos para Distintas Instancias del INFOTEP**, como son: Routers, Switchs, Servidores, Teléfonos IP, Computadoras y Licencias. Proceso de Licitación de Referencia: INFOTEP-CCC-LPN-2016-002.
- **Renovación Soporte Plataforma Telefónica** – Proceso de Comparación de Precios No. INFOTEP-CCC-CP-2016-018

- **Contacto:** Will Anderson Novo Rodríguez

- **Teléfono:** 809-566-4161, ext. 2314 / Celular: 829-904-2210

- **Email:** [wnovo@infotep.gob.do](mailto:wново@infotep.gob.do)

- **Ministerio de Salud Pública - MISPAS**



- **Proyecto:**

- **Adquisición de Equipos Informáticos.** Proceso de Licitación de Referencia No. MISPAS-CCC-LPN-04-2016, Contrato No. 177-2016

**Adquisición e Instalación de:**

- 242 Unidades de Computadoras Completas HP ProDesk 400 G3 SFF
- 7 Unidades de Computadoras Portátiles Dell Inspiron 15 7000 Series de 15.6"
- 2 Unidades de Router Inalámbrico Wi-Fi Linksys E1200 - Wireless Router - 4 Port Switch - 802.11b/g/n - 2.4GHz
- 40 Unidades de Teléfonos VoIP Grandstream s Standard IP Phone GXP-1625
- 2 Unidades de Switches HPE 1920-24G-PoE+ - Switch - 24 Ports - Managed – Desktop.

- **Contacto:** Josué Céspedes

- **Teléfono:** 809-541-3121, ext. 2241



➤ Email: [josue.cespedes@ministeriodesalud.gob.do](mailto:josue.cespedes@ministeriodesalud.gob.do)

• **Ministerio Administrativo de la Presidencia**



➤ **Proyecto:**

- **Adquisición de Soluciones Tecnológicas**, como son: Solución de Almacenamiento, Software de Almacenamiento y Respaldo, Solución de Respaldo, Caja para Servidores-Blades y Servidores Blade (Ver Contrato 18/09/2015-1-Lote 1, adjunto).
- **Adquisición de Soluciones Tecnológicas**, como son: Herramientas-Materiales de Redes, Partes Fortigate, Balanceo de Carga y Datos, Networking, Requerimientos Generales de Networking, Fibra Optica y Adecuación Electrica y puesta a tierra (Ver Contrato 18/09/2015-3-Lote 3, adjunto).
- **Suministro e Instalación de Central Telefónica marca Cisco** – Proceso de Licitación Pública Nacional No. SAP-CCC-LPN-2016-02

➤ **Contacto:** Francis Coste

➤ **Teléfono:** 809-695-8000, ext. 8309

➤ **Email:** [franciscoste@presidencia.gob.do](mailto:franciscoste@presidencia.gob.do)

• **Ministerio de Turismo - MITUR**



➤ **Proyecto:**

- **Adquisición de :**
  - Item 1.1: PC alto rendimiento gráfico (high-end): Apple iMac with Retina 5K display 27"
  - Item 1.2: PC alto rendimiento operativo: HP ProDesk 600 G2 SFF + Monitor HP V272 - LED monitor - 27" - 1920 x 1080 Full HD
  - Item 1.3: PC Computador operativo de buen desempeño: HP ProDesk 600 G2 SFF + Monitor HP V272 - LED monitor - 27" - 1920 x 1080 Full HD
  - Item 1.4: Laptop operativa, buen desempeño (mid-end): HP ProBook 450 G3 15.6" + HP 3y NextBusDayOnsite Notebook Only SVC (UK703E)



- **Contacto:** Erikson Mendoza
- **Teléfono:** 809-221-4660, ext. 2084
- **Email:** [e.mendoza\\_ucp@sectur.gov.do](mailto:e.mendoza_ucp@sectur.gov.do) y [concurso\\_ucp@sectur.gov.do](mailto:concurso_ucp@sectur.gov.do)

- **Ministerio de Hacienda - PAFI**

- **Proyecto:**

- **Adquisición de :**

- KVM (Keyboard, Video and Mouse) Switch HPE IP Console G2 Switch with Virtual Media and CAC 2x1Ex16 - KVM switch - 16 ports – desktop
- Servidor de Consolas Seriales (Console Server) Tripp Lite - Console server - 16 ports - 10Mb LAN, 100Mb LAN, RS-232 - 1 x Mdm 56 Kbps (MFR#: B096-016).
- Unidad de Distribución de Poder Redudante (Automatic Transfer Switch - ATS) APC Automatic Transfer Switch (AP-7750A)
- **Proyecto:** “Actualización de Equipos Informáticos para el Fortalecimiento de la Capacidad Productiva del Ministerio de Hacienda, según establece el Plan Anual de Compras” mediante Proceso de Licitación Pública Nacional No. **PAFI-CCC-LPN-2018-0002**, bienes y servicios detallados a continuación:

- Computadoras de Escritorio marca Lenovo
- Monitores marca Lenovo
- Switches Cisco Catalyst 3650 de 48 Puertos



- **Proyecto: "Ampliación de las Plataformas de Hardware y Software para el Almacenamiento y Procesamiento de los aplicativos y bases de datos del Ministerio de Hacienda" mediante Proceso de Licitación Pública Nacional No. PAFI-CCC-PEPU-2018-0009, bienes y servicios detallados a continuación:**

NO Partida	Descripción del Bien, Servicio u Obra
1.000	Solución para la Ampliación de las Plataformas de Hardware y Software para el Almacenamiento y Procesamiento de los aplicativos y bases de datos del Ministerio de Hacienda, la cual incluye.
1.100	Ampliación del Sistema de Almacenamiento actual del Ministerio de Hacienda basado en discos de tecnología híbrida. El sistema actual es un Netapp FAS8200
1.101	Gabinete de Discos con 24 discos instalados configurados SSD de 3.8Tb cada uno
1.102	Gabinete de discos con 24 discos instalados y configurados SAS a 12Gb de 1.8 TB Cada uno
1.103	Componentes necesarios de Hardware Software y Servicios para la instalación configuración e integración con el sistema actual y puesta a punto de esta ampliación.
1.100	Solución de Replicación remota en el Site Alieno actual del Ministerio de Hacienda basado en discos con tecnología híbrida Le sistema actual es un NetApp FAS8200
	Controladora del sistema de discos adicional. De 4 puertos Fibre Channel de 16 Gbps de velocidad de conexión target configurados instalados y hábiles para un total mínimo de 8 puertos fibre channel de 16 GB de conexión Target

	Gabinete de discos con 24 discos instalados y configurados SSD de 3.8 TB cada uno
	Gabinete de discos con 24 discos instalados configurados SAS a 12 GB de 1.8 TB cada uno
1.104	Mantenimiento y Soporte Técnico 7x24 con 4 horas de tiempo de respuesta para todos los elementos ofertados por 3 años para todas las soluciones ofertadas
1.105	Servicios Proactivos de Soporte por 3 años.
1.106	Extensión de Mantenimiento y Soporte Técnico 7x24 con 4 horas de tiempo de respuesta para la plataforma actual por un año adicional.
	Cupos de Cursos de Entrenamiento Oficiales del Fabricante NetApp para cada uno de los siguientes niveles. NetApp Certified Support Engineer, NetApp Certified Storage Associate, Hybrid Cloud, netApp Certified Data Administrator, ONTAP
2.000	Ampliación Sistemas de Servidores de Virtualización
2.100	Ampliación Sistemas de Servidores de Virtualización
2.101	Módulos de Expansión Adicionales Configurados con 4 Procesadores Intel Xeon Platinum 8180 o Superiores instalados y hábiles, cada procesador con 28 cores a 2.5GHz
2.102	Cada Modulo configurado con un total de 1536 GB de memoria RAM instalada y hábil
2.103	Cada Módulo debe poseer dos (2) discos duros SSD con capacidad de 256GB cada uno
2.104	Cada Módulo debe poseer mínimo dos (2) conexiones de Red a 10 GBps Ethernet con Soporte FCoE



2.105	Cada Módulo Debe poseer mínimo dos (2) conexiones Fibre Channel a 16 GBps
2.106	Fuentes de Poder y Abanicos, que incluye mínimo 8 abanicos de enfriamiento y 4 fuentes de poder redundantes por modulo.
2.107	Módulos Base Adicionales Configurados con 4 procesadores Intel Xeon Platinum 8180 o superiores instalados y hábiles, cada procesador con 28 cores a 2.5GHZ
2.108	Cada Módulos configurado con un total de 1536 GB de memoria RAM instalada y hábil
2.109	Cada módulo debe poseer mínimo dos (2) Discos duros SSD de 256 GB cada uno configurados en RAID1
2.110	Cada Módulo debe poseer mínimo dos (2) Conexiones de red a 10 Gbps Ethernet con Soporte FCoE
2.111	Cada Módulo debe poseer mínimo dos (2) Conexiones Fibre Channel a 16 Gbps
2.112	Fuentes de poder y abanicos mínimo 8 abanicos de enfriamiento y 4 fuentes de poder redundantes por modulo
2.113	Configuración de Particiones
2.114	Mantenimiento y Soporte Técnico 7x24 con 4 horas de tiempo de respuesta para todos lo elementos ofertados por 3 años
2.115	Servicios Proactivos de Soporte por 3 años
2.116	Extensión de Mantenimiento y Soporte Técnico 7x24 con 4 horas de tiempo de respuesta para la actual plataforma por un año adicional

2.212	Fuentes de Poder y Abanicos mínimo 8 abanicos de enfriamiento y 4 fuentes de poder redundantes por módulo
2.213	1536GB de memoria RAM adicionales para ser instalados en los servidores actuales del ministerio de Hacienda
2.214	Mantenimiento y Soporte Técnico 7x24 con 4 horas de tiempo de respuesta para todos los elementos ofertados por 3 años
2.215	Servicios Proactivos de Soporte por 3 años
2.216	Extensión de Mantenimiento y Soporte Técnico 7x24 con 4 horas de tiempo de respuesta para la plataforma actual por un año adicional.
	Incluye Configuración e Implementación

- **Proyecto:** "Adquisición de Software de Monitoreo y Gestión, Soluciones de Seguridad Informática y Equipos de Escritorio" mediante Proceso de Licitación Pública Nacional No. PAFI-CCC-LPN-2018-0006, bienes y servicios detallados a continuación:
- **Lote 1:** Software de monitoreo y gestion de elementos y sistemas de infraestructura y software, incluye servicios de implementacion y entrenamientos según requiere el pliego de condiciones.
- **Contacto:** Yenifer Fernández
- **Teléfono:** 809-687-5131, ext. 2410
- **Email:** [yenifier.fernandez@sigef.gov.do](mailto:yenifier.fernandez@sigef.gov.do)



- **Tesorería de la Seguridad Social - TSS**



- **Licencias de Software de Microsoft**, Misceláneos para Conectividad (Cable UTP, Kit de Instalación de Redes, Jacks, Faceplate, Conectores y Tarjetas HBA), Computadoras Portátiles marca Apple y Equipos de Redes (Switch Cisco + Smartnet). Proceso de Licitación Pública Nacional No. **TSS-CCC-LPN-2016-002**. Contrato de Adquisición de Bienes No. CSV-1116-03.
- Proceso de Licitación Pública Nacional No. TSS-CCC-LPN-2017-001. Contrato de Adquisición de Bienes y Servicios No. CSV-1117-04 sobre la "Renovación de Licencias Vmware"
- Adquisición de Switch Ethernet, Proceso de Comparación de Precios No. TSS-CCC-CP-2019-0010.
- Suministro de Software de Automatización y/o robotización de procesos de tecnología Anywhere, Proceso de Comparación de Precios No. TSS-CCC-CP-2019-0012
  
- **Contacto:** Sr. César Duran, Encargado de Seguridad de Sistemas
- **Teléfono:** 809-567-5049 / Celular: 809-467-5616
- **Email:** [cesar\\_duran@mail.tss2.gov.do](mailto:cesar_duran@mail.tss2.gov.do)

- **Ministerio de Agricultura**

- **Proyecto:**
  - **Adquisición de:**



➤ Scanner HP Scanjet Pro 2500 Duplex (MFR#L2747A), Proyector Epson PowerLite 98H LCD (MFR#V11H687020), Impresora Xerox WorkCentre 3335/DNI Multifunction Printer B/W (MFR#3335\_DNI) y Router Inalámbrico Smart Wi-Fi de doble Banda AC1900 (MFR#WRT1900AC). Proceso de Licitación Pública Nacional No. LPN-IA-SA-SV-GI-01/2016 (Oficina de Ejecución de Proyectos PATCA/FIDA)

➤ **Contacto:** Lic. Juana Luz Almánzar, Especialista en Licitaciones

➤ **Teléfono:** 809-535-3333

➤ **Email:** [licitaciones\\_oeop@patca.gov.do](mailto:licitaciones_oeop@patca.gov.do)

• **Programa de Medicamentos Esenciales Central de Apoyo Logístico - PROMESE/CAL**



➤ **Proyecto:**

▪ **Adquisición de :**

➤ 5 Unidades de **Switches** marca Cisco. Procedimiento de Urgencia No. PROMESE/CAL-CCC-UR-2016-01.

➤ **Contacto:** Lic. Myrna C. Segura Soto, Enc. División de Licitaciones

➤ **Teléfono:** 809-518-1313

➤ **Email:** [Segura.Myrna@promesecal.gob.do](mailto:Segura.Myrna@promesecal.gob.do)

• **Ministerio de Educación Superior, Ciencia y Tecnología - MESCyT**



➤ **Proyecto:**



**Adquisición de:**

- **Equipos Informáticos:** Dispositivo de Almacenamiento Centralizado Storage Aárea Network (SAN) marca HPE MSA 2040 SFF y Solución de Respaldo o Backup – Proceso de Comparación de Precios No. **MESCYT-CCC-CP-2016-012/Orden de Compra No. 131/16.**
- **Equipos Informáticos:** Switches de Acceso Clase Empresarial marca Cisco. Proceso de Licitación Pública Nacional No. **MESCYT-CCC-LPN-2017-0002.** Orden de Compra No. OR-2017-178.
- **Contacto:** María Antonia Brito, Departamento de Compras
- **Teléfono:** 809-731-1100, extensión 4139
- **Email:** [mbrito@mescyt.gob.do](mailto:mbrito@mescyt.gob.do)

• **Contraloría General de la República**



➤ **Proyecto:**

**Adquisición de:**

- **Licencias y Equipos Informáticos:** Expansión de Equipo NetApp FAS2040HA – Proceso de Licitación Pública Nacional No. **CGR-LPN-06-2016.**
- **Contacto:** Jelinson Zapata S., Encargado División de Infraestructura Tecnología de la Información.
- **Teléfono:** 809 682-1677, extensión 2372
- **Email:** [jezapata@contraloria.gob.do](mailto:jezapata@contraloria.gob.do)

• **Tribunal Superior Electoral**



➤ **Proyecto:**

**Adquisición de:**

- **Equipos y Servicios:** Firewall Perimetral marca Fortinet FortiGate 300D - Proceso de Licitación Pública Nacional No. **TSE-CCC-LPN-01-021-2016.**

- **Contacto:** Aneurys Feliz, Departamento de Compras y Contrataciones
- **Teléfono:** 809 535-7500, extensión 4053
- **Email:** [aneurys.feliz@tse.do](mailto:aneurys.feliz@tse.do)

- **Programa de las Naciones Unidas para el Desarrollo - PNUD**



- **Proyecto:**
  - Adquisición de:**
  - **Equipos y Software para la Digepres:** Switches Cisco, Mini-Gbic, Licencias FortiAnalyzer y Access Point. Proceso de Comparación de Precios No. SDC-83-2016.
  - **Contratación de Equipos de Digitalización** de los Archivos del Plan Odontológico del INABIMA. Proceso de Referencia: **SDP-35-2017.**
- **Contacto:** Ana Soto, Asistente Adquisiciones
- **Teléfono:** 809 537-0909, extensión 240
- **Email:** [ana.soto@undp.org](mailto:ana.soto@undp.org)

- **Ministerio de Deportes y Recreación**



- **Proyecto:**
  - Adquisición de:**
  - **Comparación de Precios:** Instalación de Sistema de Vigilancia y Seguridad del Albergue Olímpico.



- **Contacto:** Ing. Ramón Medina
- **Teléfono:** 809-284-2561
- **Email:** [ramonmedinamendez@hotmail.com](mailto:ramonmedinamendez@hotmail.com)

- **Ministerio de la Presidencia**



- **Proyecto:**  
**Adquisición e Instalación de:**
  - Equipos y Aplicaciones Tecnológicas para el Ministerio de la Presidencia y sus dependencias. Proceso de Licitación Pública Nacional No. **MINPRE-CCC-LPN-2016-03**.
- **Contacto:** Miosotis Lima
- **Teléfono:** 809-695-8300
- **Email:** [miosotislma@presidencia.gob.do](mailto:miosotislma@presidencia.gob.do)

- **Ministerio de Administración Pública – MAP**



- **Proyecto:** “Adquisición de Facilidades de Data Center, Cableado Estructurado y Central Telefónica IP, para equipamiento de las nuevas oficinas del MAP”. Licitación Pública Nacional No. **0002-LPN-MAP-2017**

- Adquisición e Instalación de:**

- Biblioteca Robótica HPE MSL4048
- Software para Backup HPE
- UPS APC Symmetra SY30K40F
- Aire Acondicionado APC InRow ACRD600P
- 



- de Proximidad Rosslare AC225IP
- Control de Acceso Biométrico Anviz
- Security And Enviromental Appliance APC NetBotz NBRK570
- StruxureWare Central Virtual Machine APC AP94VMACT
- Sistema de Detección Temprana contra Incendio
- Sensor de Humedad y Temperatura APC AP9335TH
- Alarma Estroboscópica
- Monitor de 55 Pulgadas
- Lámparas de Emergencia LED recargable
- Sistema contra Incendio de Agente Limpio
- Traslado e Instalación de Equipos del Datacenter
- Consola con Switch KVM APC AP5808
- Gabinete APC AR3104
- Pizarra Blanca Quartet SM538
- Pizarra Eléctrica para Proyección MattWeiss ES120D
- Sistema Operativo Microsoft Windows Server Standard
- Software de Monitoreo de Red ManageEngine
- Sistema de Sonido
- Extintores
- Servidor tipo Rack HP Proliant DL380 Gen9
  
- **Contacto:** Rosa Aura Durán Martínez
- **Teléfono:** 809-682-3298, extensión 312
- **Email:** [rosaura.duran@map.gob.do](mailto:rosaura.duran@map.gob.do)

- **Dirección General de Impuestos Internos-DGII**



- **Proyecto:** "Servicios de Renovación de Licencias, Mantenimientos y Soportes de Diversas Soluciones Tecnológicas en Uso por parte de la DGII por un período de Doce (12) Meses". Licitación Pública Nacional No. **DGII-CCC-LPN-2017-002**.
- **Adquisición e Instalación de:** Equipos y Renovación de Soporte y Mantenimiento de Tecnologías Cisco por un período de Doce (12) Meses. Proceso de Licitación Pública Nacional No. **DGII-CCC-LPN-2017-012**

- **Contratación de los Servicios de Renovación de Licencias, Mantenimientos y Soportes de Diversas Soluciones Tecnológicas en Uso por parte de la DGII por un período de TRES (3) años". Licitación Pública Nacional No. DGII-CCC-LPN-2018-005.**

- **Contacto:** William Lithgow

- **Teléfono:** 809-689-2181, ext. 2191

- **Email:** [wlithgow@dgii.gov.do](mailto:wlithgow@dgii.gov.do)

- **Contacto:** Edgardo Pérez, Encargado de la Sección de Datacenter

- **Teléfono:** 809-689-2181, ext. 971 / Celular: 809-390-6441

- **Email:** [eperezf@dgii.gov.do](mailto:eperezf@dgii.gov.do)

- **Fideicomiso RD-Vial del MOPC**



- **Proyecto:** "Adquisición de Equipos de Seguridad para las diferentes Estaciones de Peajes". Licitación Pública Nacional No. **FRDV-LPN-1/2017**

- Adquisición e Instalación de:**

- Cableado Estructurado y Fibra Optica para Cámaras de Seguridad

- **Contacto:** Unidad Operativa de Compras y Contrataciones

- **Teléfono:** 809-222-9274, extensión 223

- **Email:** [ComprasRDVIAL@mopc.gob.do](mailto:ComprasRDVIAL@mopc.gob.do)



- **Universidad Autónoma de Santo Domingo – UASD**



- **Proyecto:** “Conectividad de Red del Campus de la UASD-Recinto Santiago y el p Edificio de Aula Ercilia Pepín (EP)”. Licitación Pública Nacional No. **UASD-CCC-LPN-002-2017**

**Adquisición e Instalación de:**

- Salidas de Red (Cobre UTP), Equipos de Redes, Cableado Estructurado, Fibra Optica, Adecuación de los Cuartos de Comunicación (IDF), Adecuación Cuarto de Equipos Principal (Centro de Datos), Protección de Energía y Capacitación.

- **Contacto:** Dirección de Compras y Suministro
- **Teléfono:** 809-535-8273, ext. 7200
- **Email:** [compraysuministro@uasd.edu.do](mailto:compraysuministro@uasd.edu.do)

- **Instituto Técnico Superior Comunitario - ITSC**



- **Proyecto:**

**Adquisición de:**

- **Equipos CCNA para Académica::** Router 1941 Security Bundle w/SEC License PAK, Switch Catalyst 2960 Plus 24 Ports 10/100 + 2T/SFP, Linksys WRT1900AC Wireless Router, Switch GigE 802.11<sup>a</sup>/b/g/n/ac Dual Band, Configuración Profesional CCP v1.3, Console Cable, Cable USB Type A and Mini-B, Console Cable 6ft. With RJ45 and DB9F. Proceso de Licitación Pública Nacional No. **ITSC-LPN-01-2017** sobre la Adquisición de Equipos Informáticos.

- **Contacto:** Raquel Rivas, Encargada de Compras y Contrataciones

- Teléfono: 809-475-4872, extensión 2334
- Email: [raquel.rivas@itsc.edu.do](mailto:raquel.rivas@itsc.edu.do)

- **Edesur Dominicana, S. A.**



- **Proyecto:** "Adquisición de Equipos de Informáticos, los cuales detallamos mas abajo. Proceso de Licitación Pública Nacional No. EDESUR-CCC-LPN-2017-010. Orden de Compra No. 4500019399.

Dell Dual Monitor Stand – MDS14A con su Monitores

Suministro e Instalación Video Wall LED Professional 4x48" 24/7

Cisco Power Supply hot plug redundant de 1100 Watts

Cisco 897VA Gigabit Ethernet Security Router

Cisco SmartNet Extended Service Agreement for Cisco 897VA

- **Proyecto:** "Adquisición de módulos de UPS, Transfer Automático CPD y Bancos de Baterías, los cuales son: APC Symmetra PX 40KW Extended Run Battery Frame with 8 Battery Module (SYCFXR8-8), Servicio de Instalación para dos (2) Bancos Externos de Baterías, APC Symmetra PX 10KW Power Module, 208V High Efficient (SYPM10KF2) y Asco Transfer Automático 400<sup>3</sup>, 3 Source ATS, 208V, 3 Phase 4-write (componentes e instalación). Proceso de Licitación Pública Nacional No. EDESUR-CCC-LPN-2017-017.

- **Contacto:** Manuelito Ogando, Gerencia de Compras
- **Teléfono:** 809-683-9292, ext. 72236
- **Email:** [MogandoM@edesur.com.do](mailto:MogandoM@edesur.com.do)

- **Instituto Nacional de Atención Integral a la Primera infancia (INAIFI)**



➤ **Proyecto: "Compra de Computadoras, Impresoras, UPS y Licencias de Software para el Equipamiento de Nuevos Centros del área Metropolitana y del Interior del País, contemplados en el Plan Operativo Anual (POA) 2017"** mediante Proceso de Licitación Pública Nacional No. **INAIFI-CCC-LPN-2017-007**, bienes y servicios detallados a continuación::

- Lote IV, Renovación de Licencias Fortinet, para los equipos Fortigate 500D, 60D, 90D, FortiAnalyzer VM y FortiManager VM
- Lote V, Equipos Inteligentes de Protección Eléctrica Continua: Inversor CDP 800VA/600Watts 120V + 2 Unidades de Baterías PowerKing 12V 100AMP por inversor
- Lote VI, Solución de Cámaras de Vigilancia IP, incluyendo materiales y Servicios de Implementación.
  - **Contacto:** Germán Feliz, Depto. de Tecnología
  - **Teléfono:** 829-423-2372
  - **Email:** [german.feliz@inaipi.gob.do](mailto:german.feliz@inaipi.gob.do)

- **Ministerio de Hacienda**

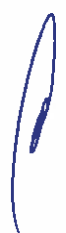


➤ **Proyecto: "Actualización y Adecuación del Centro de Datos, donde se alberará el sistema para el control de las operaciones de los establecimientos de juegos y apuestas de la Dirección de Casinos y Juegos de Azar del Ministerio de Hacienda"** mediante Proceso de Licitación Pública Nacional No. **MH-CCC-LPN-2017-03**, bienes y servicios detallados a continuación::

- Lote I, Adecuación, infraestructura Física Centro de Datos (incluye costo de los bienes y servicios, entrenamiento y el primer año de Soporte Técnico
- Lote II, Sistema de Servidores de Virtualización con un año de soporte incluido.

➤ **Proyecto: "Adquisición de Software de Virtualización y Componentes de Redes"** mediante Proceso de Licitación Pública Nacional No. **MH-CCC-LPN-2018-0011**, bienes y servicios detallados a continuación:

1. Software de Virtualización VMware , incluye Soporte a 3 años
2. Ampliación Central Telefónica Cisco
3. Licencias de Call Center Xpress para Central Telefónica Cisco actual





4. Licencias de Softphones para ser utilizadas en la ampliación Call Center para la Central Telefónica Cisco actual
5. Headsets con conexión para PCS con calidad de Call Center para ser utilizados por los Softphones en la aplicación de Call Center
6. Switches de Acceso Administrables
7. Switches de Datos Backbone
8. Módulos de Conexión de Fibra Monomodo 10 Gbps
9. Access Point Inalámbricos
10. PDUs adicionales para ampliación del Datacenter
11. Servicios Profesionales de Implementación y puesta en marcha

- **Contacto:** Arnaldo Colón, Encargado Departamento de Soporte y Desarrollo de Infraestructura Tecnológica
- **Teléfono:** 809-687-5131, ext. 2024 / Celular: 809-440-5055
- **Email:** [acolon@hacienda.gov.do](mailto:acolon@hacienda.gov.do)

- **Oficina Presidencial de Tecnologías de la Información y Comunicación (OPTIC)**

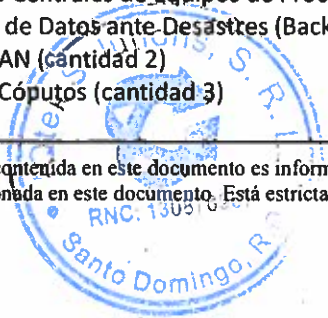


OFICINA PRESIDENCIAL DE TECNOLOGÍAS  
DE LA INFORMACIÓN Y COMUNICACIÓN

**OPTIC**

- **Proyecto:** “Contratación del Equipamiento Complementario e Instalación del Data Center del Estado Dominicano” mediante Proceso de Licitación Pública Nacional No. OPTIC-MAE-PEUR-2017-0002, bienes y servicios detallados a continuación:
- **Lote I, Servicios de Nube Privada, Equipamiento Telco, Instalación y Configuración:**

**Virtualización, Administración y Orquestación:** Licenciamiento automatización, gestión, monitoreo y aprovisionamiento para Procesadores / Sockets. En una Consola de administración para el ambiente virtual (cantidad 10). Licenciamiento de virtualización para funcionalidades de automatización, autogestión de recursos virtuales para procesadores/sockets (cantidad 6)  
Firewall, Primer Nivel de Seguridad (cantidad 2)  
Firewall, Segundo Nivel de Seguridad (cantidad 2)  
Conectividad para Seguridad Perimetral (cantidad 2)  
Routers y Balanceadores border con BGP (cantidad 2)  
Switches Core (cantidad 2)  
Almacenamiento de Aplicaciones (cantidad 1)  
Controladores Centrales de Equipos de Procesamiento (cantidad 2)  
Recuperación de Datos ante Desastres (Backup) (cantidad 1)  
Switches de SAN (cantidad 2)  
Equipos para Cómputos (cantidad 3)



Servidor para Administración (cantidad 1)  
Switches para Administración (cantidad 1)  
Switches para Usuarios del Data Center (cantidad 2)  
Switches de Acceso de Red LAN (cantidad 2)  
Switches Core LAN (cantidad 2)  
Licencia de Windows Server (cantidad 180)  
Aplicación de manejos de correos institucionales (cantidad 1)  
Plataforma de Filtrado para servicio de correo (cantidad 1)  
Software de Antivirus para Servidores (cantidad 180) y Clientes (cantidad 220)  
Solución de Panel Hosting Portal Web (cantidad 1)  
Actualización Solarwinds (cantidad 1)  
Desktop Workstation (cantidad 7)  
Laptops Workstation (cantidad 3)  
Monitores LED 24" (cantidad 17)  
Televisores Smart TV de 55" pulgadas (cantidad 4)  
Teléfonos IP (cantidad 10)  
Rack PDU Monitoreable 30ª, 100-120V, (24) 5-20R (cantidad 14)  
Rack ATS, 100-120V, 15ª, 5-15P in, (10) 5-15R out (cantidad 6)  
Unidad de Aire de Precisión (cantidad 1)  
Renovación de un Contrato de Mantenimiento y Soporte de una unidad de Aire de Precisión (cantidad 1)  
Mantenimiento y Extensión de Garantía de UPS (cantidad 2)  
Sistema de Detección y Alarma contra Intrusos (cantidad 1)  
Sistema de Video Vigilancia (cantidad 1)  
Canalización para proveedores de telecomunicación (cantidad 1)  
Tabla Lift (cantidad 1)  
Entrenamiento y Capacitación

- **Contacto:** Charli Polanco, Director de TI
- **Teléfono:** 809-286-1009
- **Email:** [charli.polanco@optic.gob.do](mailto:charli.polanco@optic.gob.do)

- **Consejo del Poder Judicial**



**Poder Judicial**  
Republica Dominicana  
Sitio Oficial

- **Proyecto:** "Adquisición de Equipos y Materiales para la Instalación de una Solución de Central Telefónica VoIP para el Edificio que aloja la Suprema Corte de Justicia y el Consejo del Poder Judicial y el de las Cortes de Apelación del Distrito", mediante Proceso de Licitación Pública Nacional No. LPN-CPJ-15-2017, bienes y servicios detallados a continuación:

Solución Cisco Unified Communications  
Router Cisco Spiad2901 with UC License  
Licencias Cisco Business Edition 6000 Electronic  
506 unidades de Teléfonos Cisco UC Phone 7811  
30 unidades de Teléfonos Cisco UC Phone 7821  
10 unidades de Teléfonos Cisco Unified Phone 3905 Charcoal Standard  
4 unidades de de Teléfonos Cisco IP Phone 8861 + botoneras + fuentes para botoneras  
235 unidades de Cisco IP Phone Power Transformer fort the 7900 Phone  
244 unidades de Power Cord  
5 unidades de Power Adapter for Cisco Unified SIP Phone 3905  
Equipos de Video Conferencia – Telepresencia  
Soporte y mantenimiento por 3 años  
Entrenamiento official para 4 Personas  
Servicios Profesionales  
Soporte y Mantenimiento Proactivo

- **Proyecto:** “Ejecución de la Fase 3 del Proyecto Migración del Esquema Telefónico de la Jurisdicción Inmobiliaria hacia tecnología IP, mediante Proceso de Licitación Pública Nacional No. LPN-CPJ-16-2018.
- **Proyecto:** “Adquisición de Equipos Ofimáticos para la Infraestructura Tecnológica del Palacio de Justicia de Jurisdicciones Especializadas”, mediante Proceso de Licitación Pública Nacional No. LPN-CPJ-14-2018, bienes y servicios detallados a continuación:
  - (a) Micro CPU
  - (b) Sistema completo de Video Conferencia y Monitores LED Adicionales
- **Contacto:** Coordinación del Comité de Compras y Contrataciones
- **Teléfono:** 809-533-3191, extensiones 2054 y 2079
- **Email:** [licitaciones-cpj@poderjudicial.gob.do](mailto:licitaciones-cpj@poderjudicial.gob.do)

- **Gabinete de Coordinación de Políticas Sociales**



- **Proyecto: "Adquisición e Instalación de equipos médicos, mobiliarios, vehículos y equipos informáticos para equipar y habilitar el Hemocentro Nacional"**, mediante Proceso de Licitación Pública Internacional No. LPI-B-01-2017, bienes y servicios detallados a continuación:

**Lote 4: Equipos Informáticos:**

- Ítem 1, Computadoras de Escritorio
- Item 4, Gabinete
- Item 7, UPS para Server 3000VA
- Item 14, Sistema de Control de Acceso
- Item 15, Sistema de Circuito de TV
- Item 19, UPS Central de Respaldo 40KW

**Proyecto: "Adquisición de Certificados Digitales SSL"**, mediante Proceso de Comparación de Precios No. BM-BCP-019-2018.

- **Contacto:** María Luego Silverio, Coordinadora General de la UTP
- **Teléfono:** 809-563-3320
- **Email:** [proteccionsocial.dr11039@gmail.com](mailto:proteccionsocial.dr11039@gmail.com)

• **Dirección General de Aduanas (DGA)**



- **Proyecto: "Ampliación y Actualización del Sistema de Almacenamiento en Red (SAN)"**, mediante Proceso de Licitación Pública Nacional No. DGAP-CCC-LPN-2018-0001.
- **Contacto:** Igor Cabrera P.
- **Cargo:** Gerente Infraestructura TI
- **Teléfono:** 809-547-1290, ext. 2740 / Celular: 809-390-6981
- **Email:** [ig.cabrera@dga.gov.do](mailto:ig.cabrera@dga.gov.do)

- **Dirección General de Contrataciones Públicas (DGCP)**



- **Proyecto:** "Renovación de Licencias y Soporte de Mantenimiento Plataforma Seguridad y Comunicaciones Portal Transaccional, de los fabricantes Fortinet y Cisco Nexus", mediante Proceso de Excepción Proveedor Unico No. DGCP-CCC-PEEX-2018-0001.
- **Contacto:** Ramón Francisco Santana
- **Cargo:** Técnico de Compras
- **Teléfono:** 809-682-7407, ext. 3052
- **Email:** [rsantana@dgcp.gob.do](mailto:rsantana@dgcp.gob.do)

- **Ayuntamiento Santo Domingo Este (ASDE)**



- **Proyecto:** "Alquiler Servidores Virtuales Oracle", mediante Proceso de Compra Menor No. ASDE-DAF-CM-2018-0063.
- **Contacto:** Maximilano Cabrera
- **Cargo:** Director de TI
- **Teléfono:** 809-788-7676
- **Email:** [maximiliano629@gmail.com](mailto:maximiliano629@gmail.com)

- **Dirección General de Cooperación Multilateral (DIGECOOM)**





- **Proyecto:** "Adquisición e Instalación de Equipos de Video Conferencia", mediante Proceso de Licitación Pública Nacional No. DIG-UGP-PRORURAL-CL-LPN-01-2018
- **Contacto:** Iberia Lera
- **Cargo:** Encargada de Compras y Contrataciones
- **Teléfono:** 809-221-8618
- **Email:** [iberia.lera@digecoom.gob.do](mailto:iberia.lera@digecoom.gob.do)

- **Oficina de Ingenieros Supervisores de Obras del Estado (OISOE)**



- **Proyecto:** "Construcción Hospital Regional San Vicente de Paul, San Francisco de Macoris, Prov. Duarte", Lote C – Suministro e Instalaciones de Redes, y Data, mediante Proceso de Licitación Pública Nacional No. LPN-OISOE-001-2018.
- **Contacto:** Departamento de Licitaciones
- **Teléfono:** 809-686-8920
- **Email:** [licitacionhospitales@oisoe.gob.do](mailto:licitacionhospitales@oisoe.gob.do)

- **Ministerio de Educación (MINERD)**



- **Proyecto:** "Adquisición de Dispositivos e Infraestructura TIC, servicio de instalación y soporte técnico para los estudiantes y docentes de 150 Centros Educativos Públicos dentro del marco del Programa República Digital-Componente Educación, Un Estudiante, una computadora-Un Docente, una computadora" Proceso de Licitación Pública Nacional No. **ME-CCC-LPN-2017-04-GD.**
- **Proyecto:** "Adquisición e Instalación de Data Center", mediante Proceso de Licitación Pública Nacional No. **ME-CCC-LPN-15-2017:**

LOTE 2	SISTEMA UPS PARA DATACENTER:		
2.1	UPS Eaton 93PM de 20KW 480/480 in/out, doble conversión, expandible a 50KW solo via software, sin agregar ningún elemento de hardware	Unidad	2
2.2	Ductobarras (BusWays) y Plugins StarLine B100A	Unidad	4
2.3	Supresores de Pico Eaton Eaton (250KA SPD250480Y3N, 160KA SPD160480D2N, 100KA 2SPD100480D3N, 80KA SPV080240S2R)	Unidad	15
2.4	Sistema Redundante de UPS para la carga general del Edificio Eaton Power Xpert 9395 250KVA + Banco de Baterías 1085	Unidad	1
2.5	Unidad de Distribución de Energía (PDU) para usuarios del Edificio Eaton 300KVA	Unidad	1
2.6	UPS para IDF Eaton 93E de 40KVA 480/480-120 in/out, doble conversión, expandible a 60KVA solo via software, sin agregar ningún elemento de hardware	Unidad	1
2.7	Sistema de Pararrayos Pulsar 45 de 89M radio, nivel 4 modelo CTH030000R0000	Unidad	1
2.8	Sistema de Tierra Harger Electrodo químico de cobre de 8ft.	Unidad	1

Lote 5	UPS-SISTEMA DE UPS PARA DATACENTER:		
5.1	UPS Eaton Powerware 9355 10KVA, 208/208 in/out, doble conversión, true-online, expandible hasta 15KVA solo via software, sin agregar ningún elemento de hardware	Unidad	2
5.2	UPS Eaton Powerware 9390 de 160KVA-120KVA/108KW, 208/208 in/out, doble conversión, true-online, expandible hasta 160KVA solo via software sin agregar ningún elemento de hardware	Unidad	1
5.3	RPP (Remote Power Panel) Eaton	Unidad	1
5.4	PDU (Power Distribution Unit) Eaton M1-38U-16AMP	Unidad	6
5.5	ATS (Automatic Transfer Switch) Eaton EATS-1U-30P	Unidad	2

- **Proyecto:** "Adquisición de Equipos y Dispositivos, para los estudiantes y docentes de los centros educativos públicos dentro del marco del Programa República Digital, Componente Educación, "Un estudiante, una computadora - Un docente, una computadora", "Segunda Etapa", mediante Proceso de Licitación Pública Nacional No. **MINERD-CCC-LPN-2018-0014.**
- **Contacto:** Lic. Luis Alberto García
- **Teléfono:** 809-688-9700, ext. 2378
- **Email:** [luis.garcia@miner.d.gob.do](mailto:luis.garcia@miner.d.gob.do)



- **Empresa de Transmisión Eléctrica Dominicana**



**ETED**

EMPRESA DE TRANSMISION ELECTRICA DOMINICANA  
*Uniendo el País con Energía*

- **Proyecto:** "Adquisición de Seccionadores de Aire KPF", mediante Licitación Pública Nacional No. **ETED-CCC-LPN-2018-0004**
- **Proyecto:** "Adquisición de 23,120 Aisladores de Suspensión, Rígidos y Polímeros", mediante Licitación Pública Nacional No. **ETED-CCC-LPN-2018-0019**
- **Proyecto:** "Suministro e Instalación de una Infraestructura Wi-Fi en Localidades de ETED", mediante Licitación Pública Nacional No. **ETED-CCC-LPN-2018-0018**
- **Contacto:** Pedro Antonio Gerónimo Parra
- **Cargo:** Analista de Licitaciones
- **Teléfono:** 809-255-5555, extensión 2013
- **Email:** [pgeronimo@eted.gov.do](mailto:pgeronimo@eted.gov.do)

- **Ministerio de Relaciones Exteriores (MIREX)**



- **Proyecto:** "Adquisición de Sistema de Automatización de las Operaciones Tecnológicas del MIREX", mediante Licitación Pública Nacional No. **MIREX-CCC-LPN-2018-0007**, el cual detallamos:
  - Adecuación de la Infraestructura Física del Centro de Datos;
  - Servidores para Plataforma Tecnológica Hiperconvergente;
  - Almacenamiento y Respaldo de la información;
  - Redes, Telecomunicaciones y Licenciamientos;
  - Soporte a Usuarios;
  - Capacitación a Usuarios;
  - Sistemas de Seguridad Lógica integrada;

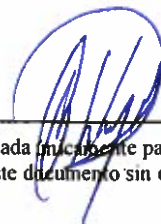


- Sistema de Gestión Administrativa;
  - Sistema Consular;
  - Servicios Profesionales.
- **Contacto:** Departamento de Compras y Contrataciones
  - **Teléfono:** 809-987-7001, ext. 7088
  - **Email:** [comitedecompras@mirex.gob.do](mailto:comitedecompras@mirex.gob.do)

**Nota Importante:** Estos son algunos de los clientes a los cuales les damos servicio actualmente.

**Franklyn Geovanny Cirpian Goodin**, en calidad de Representante Legal, debidamente autorizado para actuar en nombre y representación de **IQtek Solutions, S.R.L**

Fecha: Octubre, 2019



**Propuesta de Valor:**

Proyecto de solución tecnológica.  
"ADQUISICIÓN E INSTALACIÓN DE SOLUCIÓN DE GRABACIÓN Y TRANSMISIÓN DIGITAL PARA LA SALA AUGUSTA SUPREMA CORTE DE JUSTICIA".

Octubre 2019.



**#IQDIGITALCHANGE**



## IQtek Solutions

Somos una empresa consultora tecnológica con presencia regional en Guatemala, El Salvador, Panamá, Puerto Rico y con sede principal en República Dominicana, que apuesta por una cultura que fomente el uso de la tecnología para hacer más productivas y eficaces a las empresas.

IQtek ayuda a las organizaciones de todos los sectores a tener éxito en su evolución digital, que implica transformar modelos de negocio, optimizar la experiencia de los clientes y de los ciudadanos y mejorar la capacidad de innovación de los equipos de trabajo.

## Credenciales

Contamos con las más altas certificaciones del mercado, así como premios y logros de la región para nuestro equipo de tecnología, servicio al cliente, soporte y NOC.

## #IQDigitalChange

La transformación digital es un proceso imparable, acelerado por las empresas nativas digitales que se incorporan al mercado y que ofrecen facilitar la relación con sus clientes, para conseguir excelencia en los niveles de satisfacción. Nos aseguramos de que nuestras soluciones agreguen valor a su empresa, y que a través de estas se cuenten con las herramientas necesarias para aplicar la transformación digital.

## Nuestros Clientes

Nada es más importante para nosotros que la satisfacción de aquellos con quienes trabajamos. Nuestra experiencia garantiza el éxito del negocio, así lo manifiestan nuestros clientes:



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## Confidencialidad

La SUPREMA CORTE DE JUSTICIA (en lo adelante EL CLIENTE) e IQtek Solutions, S.R.L. (en lo adelante IQTEK) acuerdan no divulgar el contenido de esta documentación de servicios profesionales y suministro de equipos a terceras partes a menos que no sean empleados de EL CLIENTE o IQtek (colectivamente como LAS PARTES) con necesidad específica de conocer su contenido, en cuyo caso dichas personas deberán comprometerse a no revelar la información confidencial relacionada con el proyecto que figura en el presente documento.

## Revisiones del documento

Versión	Revisión	Fecha	Autor(es)	Nota
1	1	22 octubre de 2019	Hamlet Rodriguez	

## Uso exclusivo

LAS PARTES acuerdan que el contenido de este documento es de uso exclusivo de dichas partes, para el consumo técnico, administrativo y comercial de referencia para los servicios presentados por IQtek, las configuraciones, despliegue y trabajos sugeridos por IQtek en las facilidades de EL CLIENTE.

La finalidad de este documento es ilustrativa, el mismo no puede ser tomado como referencia por ninguna de LAS PARTES como instrumento o soporte para ningún tipo de alcance o contrato de proyectos futuros.

## Objetivos

El objeto de este documento técnico es conocer el alcance y componentes de la solución ofertada AL CLIENTE que conforman el proyecto, incluidos en la propuesta que acompaña a este documento. En detalle:

- Descripción de los componentes que conforman la solución.
- Funcionalidades de los equipos propuestos que estarán siendo suministrados en esta propuesta.
- Responsabilidades tanto de IQtek como de EL CLIENTE para esta propuesta.



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## IQtek Solutions



### Objetivo

Ofrecer consultoría y soluciones de Tecnologías de Información y Comunicaciones confiables, seguras y de alto rendimiento, fundamentados en nuestras alianzas estratégicas con los líderes de la industria de forma tal que nuestros clientes obtengan una ventaja competitiva en los mercados donde operan.

### Misión

Convertirnos en los proveedores y asesores de confianza de nuestros clientes y de esta manera ofrecerles soluciones de tecnologías de información y comunicaciones de calidad mundial aprovechando nuestra vasta experiencia, conocimiento y las soluciones tecnológicas con los fabricantes líderes del mercado.

### Visión

Ser la empresa líder de la región en la oferta de soluciones de tecnologías de la información y comunicaciones y servicios gestionados innovadores. Ser reconocida por contar con un equipo profesional con especialistas certificados en las diferentes soluciones que proveemos y las certificaciones de mayor prestigio de la industria. Garantizar las implementaciones realizadas y lo más importante, el soporte local de cada solución instalada.

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## Valores

Estamos comprometidos con los siguientes valores:

- Compromiso con el éxito de nuestros clientes
- Responsabilidad
- Colaboración
- Ética incuestionable
- Servicio flexible y ágil

## Historia

Con más de 5 años de experiencia, IQtek ha realizado las implementaciones de más grande envergadura en el sector financiero, industrial, comercio privado, sector público, seguridad; con experiencia en implementaciones de Comunicaciones Unificadas, Colaboración, Telepresencia, Contact Center, IVR, Chat, Email, Páginas Web, Aplicaciones, entre otros.

## Oficinas

Contamos con presencial regional en Latinoamérica, nuestras oficinas están ubicadas en las siguientes direcciones:

### República Dominicana

**Santo Domingo - HQ**  
Calle Gala #8  
Arroyo Hondo Viejo  
Distrito Nacional  
(809) 540-4250

### Santiago

Plaza El Portal, Piso 2 Módulo 2c  
Ave. Estrella Sadhalá  
Santiago  
(809) 540-4250

### Puerto Rico

District View Plaza, Suite 301  
644 Fernandez Juncos Ave.  
San Juan PR, 00907-3122  
(787) 520- 6199

### Panamá

Oficina 903, Edificio Credicorp  
Calle 50, Apartado Postal 832-0000002  
WTC, Panamá  
(507) 205-1674

### Guatemala

City Tower, Euro Plaza 3  
Nivel 8, Torre Citibank  
Avenida 13-78 Zona 10  
Guatemala, Guatemala  
(502) 238-2342

### El Salvador

89 Avenida Norte y Calle El Mirador  
Edificio World Trade Center  
Torre 1, Piso 2  
Colonia Escalón  
(503) 2254-6653



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## Resumen Ejecutivo

La Suprema Corte de Justicia es el órgano jurisdiccional superior de todos los organismos judiciales. En ella funcionan seis (6) órganos Jurisdiccionales que son:

El Pleno  
Primera Sala  
Segunda Sala  
Tercera Sala  
Salas Reunidas  
Presidente de la Suprema Corte de Justicia

## Solución Propuesta

En este documento se muestra una solución que satisface los requerimientos técnicos y funcionales solicitados por EL Cliente para este proyecto.

En la lista de accesorios solicitados hay algunos componentes redundantes, algunos de estos fueron sustituidos con una solución más costo/efectiva que cumple y no afecta el diseño y alcance. A continuación, se muestran los componentes requerido en la licitación vs los componentes ofertados por nosotros, se detallan los componentes que fueron sustituidos (marca y modelo).

Sec ció n	Descripción
1	1x Sistema de grabación y streaming: TriCaster Mini Advanced HD-4i, NewTek
2	1x Panel de control para Sistema de Streaming: TC1SP Small 14-Button Control Panel for Live Production Systems, NewTek
3	4x Cámaras robóticas 1080P NDI/HX: NDIHX-PTZ1 NDI PTZ Camera, NewTek.
4	1 x Software de interconexión de medios Digitales: Connect Pro Software, Newtek.
5	1 x Almacenamiento para Grabación de Videos 24TB: TS-932X 9-Bay NAS Enclosure, QNAP.
6	Equipos de audio: 1x RX1602 Professional Multi-Purpose 16-Input Ultra-Low Noise Line Mixer: Eurorack Pro RX1602 V2 16-Channel Rack Mountable Line Mixer, Behringer 2x B1031A 150W 8" Active 2-Way Studio Monitor (Single):





Truth B1031A 150W 8" Active 2-Way Studio Monitor, Behringer.



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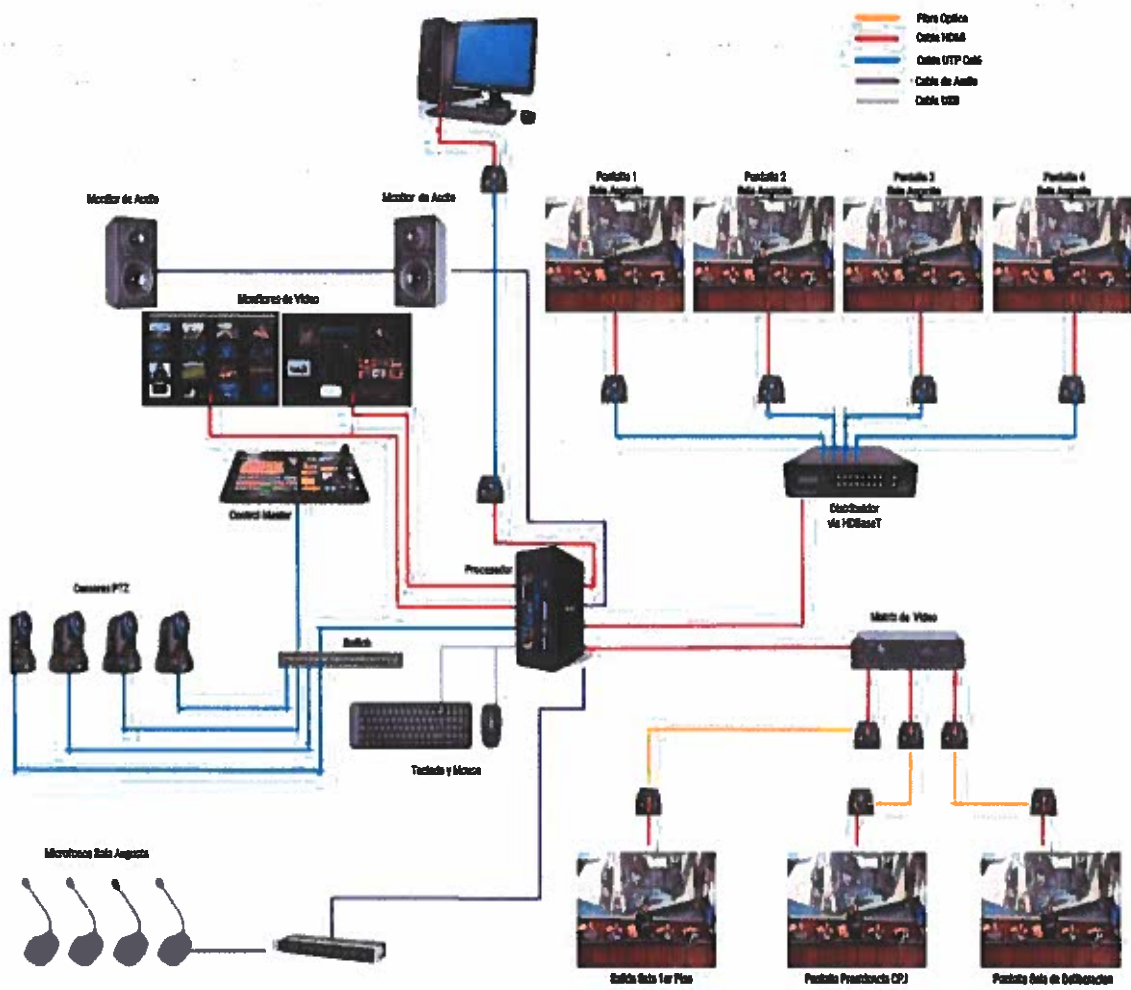
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## LISTADO DE ACCESORIOS Y CAMBIOS REALIZADOS

Cantidad	Lista Original Accesorios Solicitada	Lista y/o Equipos Modificados	Justificación
2	Mini Optical-HDMI 12G Converter.	8x8 4KHDBaseT HDMI Matrix Switcher w/ 8 PoC HDBaseT Receivers, AVIshop	Estos equipos que iban a ser utilizados para las señales de las pantallas de la Sala Augusta desde la sala de control, y fueron modificados en el diseño por un Switch de 8x8 via HDBaseT (Cat6) permitiendo poder cubrir la necesidad actual y con capacidad de expansión a futuro.
6	Mini HDMI to Optical 12G.		
4	VM-4HC 1:4 HDMI Distribution Amplifier.	Accesorio Incluido	De estos equipos solo colocamos (1) en la propuesta ya que los 3 adicionales no eran necesarios en el nuevo diseño justificado en el diagrama enviado.
6	HDMI Extender over Single Cat 6/5e Cable with IR Blaster, 1080p60.	Accesorio Incluido	De los extensores pedidos sean propuesto (2) en vez de (6). Uno será utilizado para la transmisión de Imagen y Audio desde la Computadora en la Sala Augusta hacia la sala de control, el otro extensor será como "Spare" en caso se pueda necesitar otro adicional.
2	Mini HDMI to NDI Encoder.	Accesorio Incluido	
2	USB 3.1 Dual-Bay Dock for 2.5"/3.5" SATA SSDs/HDDs.	Accesorio Incluido	
5	HCM-1 Small Universal Wall Mount Bracket for Select Cameras (Black).	Accesorio Incluido	
6	Multimode LC Fiber Optic Tactical Cable, 250P.	No Incluido	Estos cables fueron sustituidos por cables UTP de Cat6 que serán utilizados en los extensores a las pantallas de la sala Augusta.
4	Multi-Mode Fiber Module SFP LC (UF-MM-1G).	Accesorio Incluido	
6	Pearstone 50' Active HDMI with RedMere Chipset.	Accesorio Incluido	
2	Mini HDMI to SDI 12G Converter	Accesorio Incluido	



Diagrama de Conexión y flujo sistema de video, audio y streaming (Sala Augusta y áreas adicionales)



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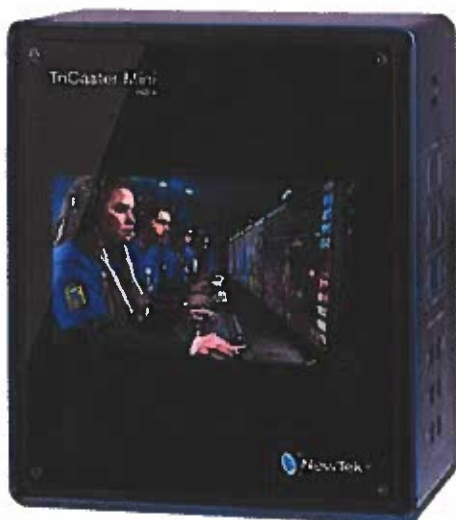
## Especificaciones técnicas

### Sección 1

Producto: TriCaster Mini Advanced HD-4i, NewTek

Numero de parte: TriCaster Mini Advanced HD-4i

Cantidad: 1



Especificaciones	Cumple	No cumple
Advanced Edition, Video IP NDI.	✓	
Switching, streaming y grabación en HD.	✓	
8 entradas de vídeo externas y 4 salidas de mezcla	✓	
8 entradas de video IP a través de NDI.	✓	
4 x entradas de video digital HDMI 1080P.	✓	
Conecte a dispositivos IP compatibles a través de NDI.	✓	
Streaming a Facebook Live, Twitch, Youtube.	✓	
Publicación en redes sociales en tiempo real.	✓	
Grabación multicanal y almacenamiento interno	✓	

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Pantalla LCD de 7.0 pulgada (17.8 cm) con salida configurable.	✓	
Reproducción de vídeo sin hardware adicional	✓	
Creación de títulos y motion graphics incorporados	✓	
· Mezcla de audio multicanal.	✓	
Soporte para 8 cámaras robóticas simultáneas Pan-Tilt-Zoom (PTZ)	✓	
Capacidad de 5 x canales de grabación de video configurables a través de la tecnología IsoCorder	✓	
Almacenamiento interno 1.5TB	✓	
Capacidad de grabación en almacenamiento externo a través de USB 3.0	✓	
Capacidad de integración de almacenamiento compartido y soluciones de socios de terceros.	✓	
Estándar WiFi 802.11ac.	✓	
LAN Gigabit	✓	
Modelos de referencia (Mini Advanced HD-4i, Studio HD500)	✓	
2 años de garantía.	✓	



*P*

## Sección 2

Producto: TC1SP Small 14-Button Control Panel for Live Production Systems, NewTek  
 Numero de parte: TC1SP

Cantidad: 1



Especificaciones	Cumple	No Cumple
Diseño intuitivo, mapeada directamente a la interfaz de usuario para máxima interacción.	✓	
Completo Flujo de trabajo para un óptimo rendimiento de producción en directo.	✓	
Botones iluminados para una mejor visibilidad de la actividad superficie de control en cualquier condición de iluminación ambiental.	✓	
PTZ Control Premium T-Bar y proteje Joystick para controlar con precisión de efectos, zoom y transiciones.	✓	
Sin costuras, conversión de producción de múltiples elementos con versátil simultáneas multiselect delegado controles.	✓	
Stripes: 1.5 x panel stripes	✓	
Source Buttons: 14 x switcher source buttons, 11 x M/E source buttons	✓	
Joystick: 1 x multi-mode joystick (3-axis)	✓	
T-bar: 1 x multi-mode T-Bar	✓	

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Conectividad: USB	✓	
Modelos de referencia (TC1SP, TC1LP)	✓	
Garantizar compatibilidad con dispositivo de streaming ofertado:	✓	
2 años de garantía.	✓	

### Sección 3

Producto: NDIHX-PTZ1 NDI PTZ Camera, NewTek.

Numero de parte: NDIHX-PTZ1 NDI

Cantidad: 4



Especificaciones	Cumple	No Cumple
Soporte nativo para formatos de video HD de hasta 1080p 60	✓	
Soporte de conteo integrado y automático a través de NDI	✓	
Zoom: 20x Optical / 12x Digital, Focal Length: 4.7mm to 94mm, Aperture: F1.6 to F3.5.	✓	
Operación de giro, inclinación y zoom motorizados con posiciones preestablecidas.	✓	
Control remoto y monitoreo a través de la interfaz de usuario basada en la web.	✓	
Control remoto a través de IP a través de NewTek Studio Monitor.	✓	
Captura y grabación remota a través de NewTek Studio Monitor	✓	

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Alimentación a través de Ethernet a través de PoE + (802.3at) o fuente de alimentación externa incluida de 12 V CC 1ª	✓	
Soporte de montaje incluido.	✓	
Compatible con soluciones de producción profesionales y de prosumidores que incluyen sistemas de producción en vivo NewTek y conmutadores de video de terceros, así como herramientas de video basadas en software como Livestream Studio, OBS, Streamstar SW, Telestream Gameshow y Wirecast, VidBlaster, vMix, XSplit y todos los demás Productos compatibles con NDI	✓	
Compatible con aplicaciones. de video de escritorio populares a través del controlador NDI HX, incluidos Google Hangouts, GoToMeeting, Skype, Skype for Business, WebEx, Zoom y más.	✓	
Incluir Control de palanca PTZ Compatible	✓	
Incluir Base para instalación en pared o techo.	✓	
Modelos de referencia (NDIHX-PTZ1, 30X-NDI)	✓	
2 años de garantía.	✓	

#### Sección 4

Producto: Connect Pro Software, Newtek.

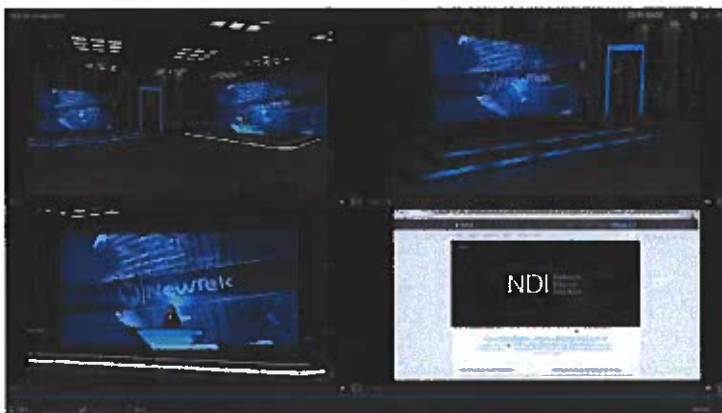
Numero de parte: Connect Pro Software, Newtek.

Cantidad: 1



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Especificaciones	Cumple	No cumple
Hasta 4 canales, cada uno configurable como entrada o salida, para cualquier combinación de fuentes compatibles con conversión de estándares incorporada	✓	
Admite la interoperabilidad entre estándares de IP comunes para incluir NDI, ASPEN y SMPTE 2022.	✓	
Soporte para cámaras IP comunes para incluir modelos de JVC, Panasonic, PTZ Optics, Sony y Vaddio	✓	
Soporte para dispositivos de captura de fabricantes que incluyen AJA, Blackmagic Design, BlueFish 444, DELTACAST, Magewell, Matrox, Teradek y otros, incluido el emparejamiento de teclas y relleno en la entrada y salida de las tarjetas de video apropiadas; Dispositivos DirectShow, cámaras web, dispositivos de captura USB3 y más.	✓	
Soporte para una variedad de fuentes de video sobre IP, incluidas las transmisiones RTMP, RTSP y HTTP.	✓	
Soporte para la entrada de dispositivos y software compatibles a través de Apple AirPlay	✓	
Compatibilidad con dispositivos comunes de captura y salida de audio, incluidas tarjetas de audio profesionales, AES67 y Dante.	✓	
4 canales de reproducción multimedia integrada, con soporte para todos los archivos multimedia comunes e imágenes fijas (incluido el canal alfa), y reproducción	✓	



automática en cuenta NDI		
Captura de imágenes fijas de alta calidad desde cualquier fuente, con desentrelazado adaptable al movimiento	✓	
Servidor web NDI Connect para visualización remota de fuentes NDI desde un navegador web de cualquier dispositivo en red, incluidos dispositivos iOS y Android	✓	
Audío de 8 canales, con control de nivel por canal y monitoreo de auriculares.	✓	
Ajustes de corrección de color totalmente configurables, que incluyen balance de blancos, controles de amplificador de proceso y corrección automática de color.	✓	
Forma de onda integrada y Vectorescopio para monitoreo y ajuste de señal en tiempo real.	✓	
Monitoreo completo de frecuencia de campo, desentrelazado, con monitor de retorno del programa NDI suplementario.	✓	
Espacios de trabajo configurables, que incluyen soporte para pantallas duales y superposiciones de retícula opcionales, incluidos medidores de VU, caja fuerte de título, caja fuerte de 4: 3, tablero de ajedrez de canal alfa y cruz central.	✓	
Conversión cruzada de velocidad de cuadros y resolución, sincronización de cuadros y reconexión de audio en todas las entradas, con sincronización A / V ajustable por canal	✓	
Modelos de referencia (NewTek Connect Pro, Studio 6 Live Production)	✓	



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## Sección 5

Producto: TS-932X 9-Bay NAS Enclosure, QNAP.

Numero de parte: TS-932X

Cantidad: 1



Especificaciones	Cumple	No cumple
Interfaces: 2 x 10 Gigabit SFP+, 2 x Gigabit RJ45	✓	
Port USB: 3 x USB3.0	✓	
HDD Interface: 5 x 3.5"/2.5" SATA 6Gb/s HDDs / SSDs	✓	
Form Factor: 5-Bay, 4-Bay 2.5	✓	
Processor: Quad-core 1.7GHz	✓	
Memoria: 8GB	✓	
Qtier technology and SSD caching enable 24/7 optimized storage efficiency.	✓	
Dimensiones: 224.7 × 182.7 × 223.6 mm	✓	
Incluir 6 HDD por cada equipo, WD 4TB 3.5 Inch SATA III, 7200 RPM, 64 MB Cache Enterprise	✓	
Incluir 4 x SSD, WD 512GB	✓	

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Incluir 1 Cable 2 metros 10G SFP+ DAC Cable - 10GBASE-CU Passive Direct Attach Copper SFP +, (compatible, Ubiquiti, Mikrotik, Cisco.)	✓	
Incluir Kensington Lock Portable Combination Cable, 6	✓	
Modelos de referencia (TS-932X-8G-US, SY932X-16G)	✓	
2 años de garantía.	✓	

Producto: 4TB Hard Disk Drive - 7200 RPM Class SATA 6Gb/s 64MB Cache 3.5 inch, WD  
 Cantidad: 6

## Sección 6

### Equipos de audio:

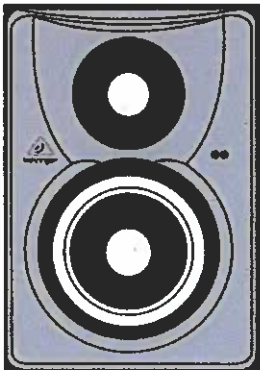
Producto: Eurorack Pro RX1602 V2 16-Channel Rack Mountable Line Mixer, Behringer.  
 Numero de parte: RX1602

Cantidad: 1



Producto: Truth B1031A 150W 8" Active 2-Way Studio Monitor, Behringer  
Numero de parte: B1031A

Cantidad: 2



### Sección 7 Accesorios:

Producto: VM-4HC 1:4 HDMI Distribution Amplifier, KRAMER.  
Numero de parte: VM-4HC

Cantidad: 1



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Producto: HDMI Extender over Single Cat 6/5e Cable with IR Blaster, 1080p60. GoFanco.  
Numero de parte: HDExt

Cantidad: 2



Producto: USB 3.1 Dual-Bay Dock for 2.5"/3.5" SATA SSDs/HDDs., StarTech.  
Numero de parte: SDOCK2U313

Cantidad: 2



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Producto: HCM-1 Small Universal Wall Mount Bracket for Select Cameras (Black).

Numero de parte:

Cantidad: 5

Producto: 6 Fiber Indoor/Outdoor Fiber Optic Cable, Multimode, 62.5/125, 300 meters.

Numero de parte:

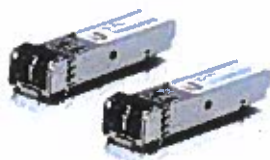
Cantidad: 1



Producto: Multi-Mode Fiber Module SFP LC (UF-MM-1G)

Numero de parte: UF-MM-1G

Cantidad: 6



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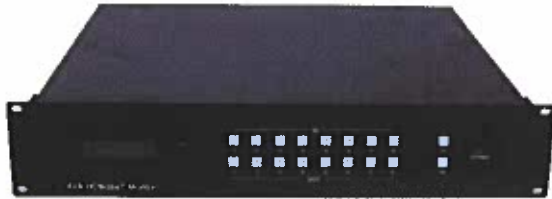
CONFIDENCIAL 22

Producto: Pearstone 50' Active HDMI with RedMere Chipset  
Numero de parte: Pearstone 50' Active HDMI with RedMere Chipset

Cantidad: 6



Producto: 8x8 4KHDBaseT HDMI Matrix Switcher w/ 8 PoC HDBasT Receivers, AVIshop.  
Numero de parte: HDBaseT Matrix  
Cantidad: 1



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CONFIDENCIAL 23



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Producto: HFX-S 4K HDMI over Fiber Cable.Extender Set, Smart AVI  
Numero de parte: HFX-TX

Cantidad: 4



Producto: Mini HDMI to NDI Encoder, BirdDog  
Numero de parte: Mini HDMI to NDI Encoder

Cantidad: 2



Producto: Mini HDMI to SDI 12G Converter, BlackMagic  
Numero de parte: Mini HDMI to SDI 12G Converter,

Cantidad: 2



### Instalación y servicios

- Cableado Premium (Audio-Video-Estructurado).
- Instalación Sistemas de Video.
- Materiales de Instalación.
- Programación, Calibración y Ajustes del Sistema.
- Training Personal

### Alcance de los servicios

El alcance de esta Propuesta de suministro de equipos será ejecutado de acuerdo con las siguientes consideraciones y actividades:

### Actividades

- **FASE 1:** El Suministro de los productos detallados en este documento por parte de IQTEK a EL CLIENTE para el proyecto de "ADQUISICIÓN E INSTALACIÓN DE SOLUCIÓN DE GRABACIÓN Y TRANSMISIÓN DIGITAL PARA LA SALA AUGUSTA SUPREMA CORTE DE JUSTICIA".



### Garantía

Todos los equipos cuentan con 2 años de garantía

### Tareas no incluidas

Dentro del alcance de este proyecto no están incluidas tareas adicionales a las listadas anteriormente, en caso de que se requiera realizar una actividad no prevista en lo anterior mencionado.

### Programa estimado de servicios Suministro:

De treinta (30) a cuarenta (40) días laborables, luego de recibida la orden de compra y/o firma del Contrato.

### Forma de Pago

Treinta (30) días de Crédito a partir de la fecha de recepción de la factura en la Gerencia de Compras y Contrataciones y la emisión del acta de aceptación por parte de la Dirección de Tecnologías de la Información del Consejo del Poder Judicial.

### Validez de la Oferta

Nuestra oferta permanecerá vigente por un período de cuarenta y cinco (45) días, contados a partir de la fecha del acto de apertura.

**Franklyn Geovanny Ciprian Goodin**, en Calidad de Representante Legal, debidamente autorizado para actuar en nombre y representante de IQtek Solutions, S.R.L

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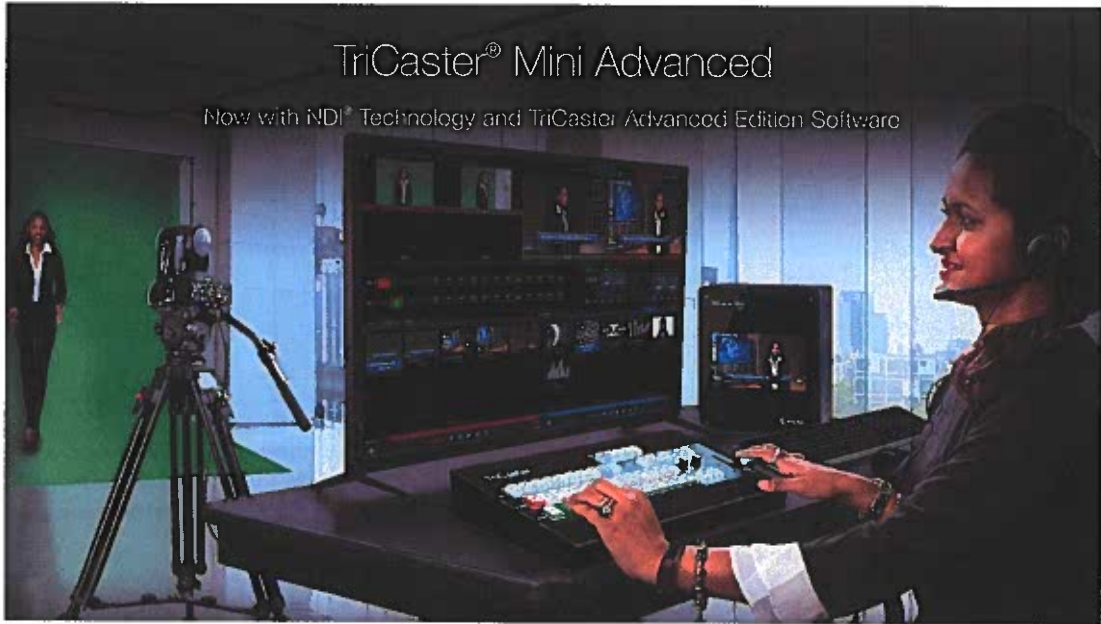


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26

A handwritten signature in blue ink, appearing to be "Franklyn Geovanny Ciprian Goodin", written over a red rectangular stamp.



### Portable, Professional, and Equipped for End-to-End IP

Produce and publish extraordinary video content for screens and audiences of all sizes with the most complete, compact multimedia studio in the world—TriCaster® Mini Advanced.



## Enter the World of IP Video – Today.

Connect to the most prolific IP-based workflow in the industry right out of the box. With native integration of NDI®, NewTek's innovative Network Device Interface technology, TriCaster Mini Advanced is instantly compatible with products from hundreds of manufacturers and developers over the network.



## Get Creative

- Use any combination of compatible video sources, including cameras, mobile devices, computers, gaming systems, streaming media, video files, graphics, images, animations, and more
- Let your imagination run wild with multi-bus mix effects, custom animated transitions, data-driven graphics, green screen compositing, live virtual sets, and more
- Personalize your production environment with customizable control and monitoring options, and automate live operations with a versatile macro automation system



## Reach Your Audience

- Live stream to multiple destinations simultaneously, including Facebook Live, Microsoft Azure, Periscope, Twitch, Ustream, YouTube Live, and more
- Share media to multiple user accounts on your favorite social networks, like Facebook, Imgur, LinkedIn, Twitter, Vimeo, YouTube, and more
- Capture and export QuickTime® and H.264 video files for VOD, post-production, replay, and archive



## Real Video Production. No Experience Required.

You don't have to be a video expert, own a studio, or know your way around a broadcast control room to deliver your message through video with network-quality results. With an all-in-one design, do-it-yourself setup, and hundreds of entry-level and advanced production capabilities, you can be on your way to captivating audiences from anywhere within minutes of opening the box.

- HD switching, streaming, and recording
- 8 external video inputs and 4 mix outputs
- Connect to compatible IP devices via NDI<sup>®</sup>
- Streaming to Facebook Live, Twitch, and more
- Real-time social media publishing
- Multi-channel recording and internal storage
- Video playback without any additional hardware
- Built-in live titling and motion graphics
- Multi-channel audio mixing
- SDI, HDMI, and case display options available



### Max potential

Maximize your investment now and for the future. With TriCaster Advanced Edition software now included, TriCaster Mini Advanced offers more than 100 additional video production capabilities compared to the original system platform—at no additional cost.

[Explore more features](#)

## TriCaster Mini Advanced Models

TriCaster Mini HD-4



- HDMI video connectivity
- Native NDI<sup>®</sup> integration
- Hundreds of built-in capabilities
- 750 GB internal storage

TriCaster Mini HD-4i



- HDMI video connectivity
- Native NDI<sup>®</sup> integration
- Hundreds of built-in capabilities
- 1.5 TB internal storage
- Space-saving case display

TriCaster Mini HD-4sdi



- SDI video connectivity
- Native NDI<sup>®</sup> integration
- Hundreds of built-in capabilities
- 1.5 TB internal storage
- Space-saving case display



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# NewTek **NDI-PTZ1**™

IP Video Camera

Operating Instructions

**NDI** | HX





Revised –September 21, 2018

Trademarks: NewTek, NewTek VMC1, NewTek VMC1 IN, NewTek VMC1 OUT, NewTek NC1, NewTek NC1 IN, NewTek NC1 I/O, TriCaster, TriCaster TC1, TriCaster Advanced Edition, TriCaster XD, TriCaster 8000, TriCaster TCXD8000, TCXD8000, TriCaster 860, TriCaster TCXD860, TCXD860, TriCaster 460, TriCaster TCXD460, TCXD460, TriCaster 410, TriCaster TCXD410, TCXD410, TriCaster Mini SDI, TriCaster Mini, TriCaster 40, TriCaster TCXD40, TCXD40, TriCaster 855, TriCaster TCXD855, TCXD855, TriCaster 455, TriCaster TCXD455, TCXD455, TriCaster EXTREME, TriCaster 850 EXTREME, TriCaster TCXD850 EXTREME, TCXD850 EXTREME, TriCaster 450 EXTREME, TriCaster TCXD450 EXTREME, TCXD450 EXTREME, TriCaster 850, TriCaster TCXD850, TCXD850, TriCaster 450, TriCaster TCXD450, TCXD450, TriCaster 300, TriCaster TCXD300, TCXD300, TriCaster PRO, TriCaster STUDIO, TriCaster BROADCAST, TriCaster DUO, MediaDS, MDS1, 3PLAY, 3Play, 3Play 3P1, 3Play 4800, 3PXD4800, 3Play 440, 3PXD440, 3Play Mini, 3Play 820, 3PXD820, 3Play 425, 3PXD425 3Play 330, 3PXD330, TalkShow, TalkShow VS 4000, TalkShow VS100, Network Device Interface, NDI, NewTek Connect, NewTek Connect Spark, NewTek IsoCorder, ProTek, ProTek Care, ProTek Elite, IVGA, SpeedEDIT, IsoCorder, LiveText, LiveGraphics Creator, LiveGraphics, DataLink, LiveSet, LiveGraphics, TriCaster Virtual Set Editor, Virtual Set Editor Advanced Edition, TriCaster VSE, TriCaster VSE Advanced Edition, LiveMatte, TimeWarp, VT, VT[3], VT[4], V[T5], Video Toaster, Toaster, Inspire 3D, 3D Arsenal, Aura, LightWave, LightWave 3D and LightWave CORE are trademarks, service marks, and registered trademarks of NewTek. All other brand names, product names, or trademarks belong to their respective holders.



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## Section 1 INTRODUCTION AND SETUP

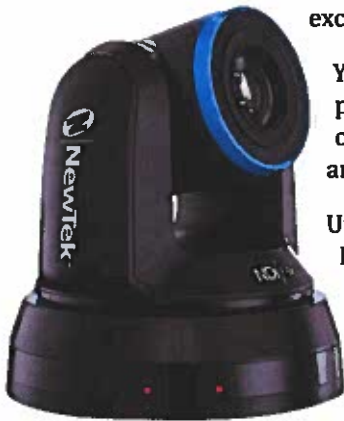


This section explains how to connect and configure your NewTek NDI-PTZ1™ camera. It also explains how to update the device, and where you can find additional NDI® software to extend your workflow. After completing this short section, you'll be all set to begin using your new camera.

### 1.1 OVERVIEW

Thank you for purchasing this NewTek™ product. NewTek is proud of its record of innovation and commitment to excellence in design, manufacture, and superb product support.

NewTek provides some of the most advanced live production tools available, and we are confident you will find them exceptionally powerful and versatile.



Your NewTek NDI-PTZ1™ camera delivers amazing functionality in a compact package. Prosumers and video professionals alike will appreciate the convenience and flexibility it provides in connection with video production and capture.

Unlike typical cameras, PTZ1 leverages the ground-breaking benefits of the NDI-based IP workflow supported by leading video software and hardware developers around the globe. This manual will assist you to install and configure your new product.



### 1.2 GETTING READY

Your NewTek NDI-PTZ1 device uses the NDI|HX™ protocol for audio/video transmission, and more.

Your first step will be to install NDI|HX drivers as appropriate for your computer platform or device:

1. Navigate to <http://new.tk/PTZ1Info> in your web browser, and follow the relevant directions to download and install NDI|HX drivers for your computer platform.

**NOTE:** The NDI|HX driver also installs NewTek's NDI Studio Monitor application, which will not only display the output of your camera, but provide easy access to its settings. It even includes built-in PTZ controls.

**NOTE:** The End User License Agreement under which you use the NDI|HX driver specifies that "you may use up to five (5), and no more than five, copies on separate machines at one time."



- Optional – for Microsoft Windows® users, downloading and installing the NewTek NDI Tools pack, available at no cost from <https://www.newtek.com/ndi>, will provide a very useful array of practical NDI learning tools and utilities.

### 1.3 MAKING CONNECTIONS



FIGURE 1-1

1. Connect the *power supply* line cord to an A/C power outlet, and insert the round power plug into the DC IN 12V socket located at left on the a/v connection panel (Figure 1-1). Push the power plug into the socket until it is firmly seated.

*Hint: Your NDI-PTZ1 supports the Power over Ethernet standard (IEEE802.3at). This allows you to skip the step above if your network supplies DC power by this means.*

2. Connect one end of a network cable to NDI-PTZ1's RJ-45 Ethernet port, marked NDI|HX. Connect the other end of the cable to your network switch or router, or a computer's Ethernet port.

At this point, two lights on the front of PTZ1's base illuminate as the camera performs a self-test. If this does not happen, check your connections and retry. After a few moments, the standby light will go out, leaving only the power light on.

*Hint: These front panel lights do dual duty, serving as Tally lights as discussed later.*

Your NewTek NDI-PTZ1 is already sending NDI audio and video to your local network. We'll talk about how to access it soon, but first let's discuss how to manage configuration settings and options.

### 1.4 WEB CONFIGURATION

NewTek NDI-PTZ1 is very easy to configure. In many installations, all you need to do is supply power, connect a video source and your network, and you're ready to go.

Sometimes, though, you will want to access its settings, perhaps to configure login credentials, adjust color balance, and so on.

*Note: As web browsers vary widely, you may occasionally find it necessary to delete cached files (sometimes referred to as the browser's "history") before the display refreshes to properly show some recent change. This can happen, for example, after a firmware update.*



These settings are made available by means of a configuration webpage, which you can access from any suitable device (i.e., one with a web browser) on the same network.

*KEEP READING TO LEARN HOW TO ACCESS YOUR CAMERA'S WEBPAGE.*

Some devices provide direct, easy access to PTZ1's configuration webpage.

For example, when you select its NDI output as the source for a NewTek TriCaster® input, a convenient "Configure" button is shown. Simply click it to open PTZ1's web control page.

### 1.4.1 STUDIO MONITOR

For other platforms, you can use the Studio Monitor application you installed along with the NDI|HX driver back in Section 1.2.

- Windows platform users can launch Studio Monitor from the Start menu or App list (Figure 1-2), where it will appear in the NewTek NDIHX Driver folder.
- OS X users will also find a new Studio Monitor application available to them after installing the NDI|HX driver for their platform.

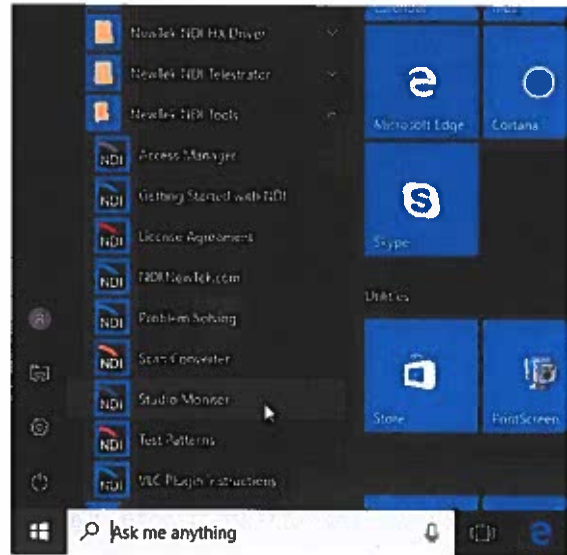


FIGURE 1-2

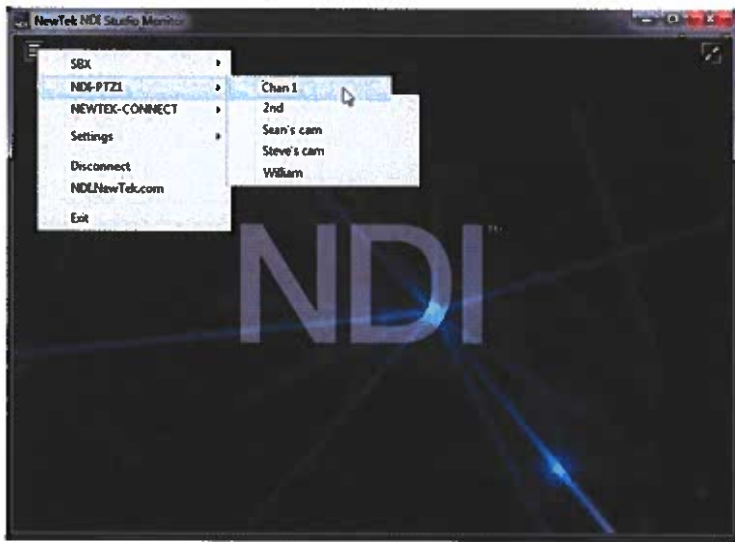


FIGURE 1-3



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Among its capabilities, Studio Monitor (see Figure 1-3, which shows the Windows version of the application) detect and display any NDI or NDI|HX sources available on your network.

#### LOCATING YOUR CAMERA ON THE NETWORK – WINDOWS™

1. Having launched Studio Monitor, click the small menu gadget ('hamburger') at upper left to open the application menu. Among other things, this menu displays all NDI sources detected on your network.
2. Shortly, you should see a new main entry named NDI-PTZ1 listed in the menu. Rolling the mouse pointer over this label shows the individual names for the NDI output channels of any NDI-PTZ1 cameras detected on the network.

*Hint: Detection of newly-connected NDI sources can take a few moments; in network settings with a great number of NDI sources available, a complete refresh of the source list can take a minute or even more.*

*When the sub-menu lists multiple NDI channels with the same name, the device IP address is shown to further identify them. (NDI users seldom need to bother with mundane matters such as IP addresses. ☺)*

Select the newly listed channel for the camera you wish to configure. In a few moments, its NDI video output will appear in the Studio Monitor window.



FIGURE 1-4

3. For NDI sources (like PTZ1) that supply a configuration web page, Studio Monitor displays a small configuration (gear) icon at lower right when you roll the mouse pointer over it window – Figure 1-5.



FIGURE 1-5



- Click the gear to open PTZ1's web page, popping up a request for you to enter login credentials.

**Note:** The Microsoft Edge™ web browser is not fully supported at this time. On Windows platforms, please another modern web browser or Internet Explorer™.

#### LOCATING YOUR CAMERA ON THE NETWORK – OS X™

The process is very similar for OS X users.

- Having launched the Studio Monitor application, use the File menu to locate a new main entry named NDI-PTZ1. Rolling the mouse pointer over this label shows the individual names for the NDI output channels of any PTZ1 cameras detected on the network.

*Hint: Detection of newly-connected NDI sources can take a few moments; in network settings with a great number of NDI sources available, a complete refresh of the source list can take a minute or even more.*

*When the sub-menu lists multiple NDI channels with the same name, the device IP addresses are shown to further identify them. (NDI users seldom need to bother with mundane matters such as IP addresses. ☺)*

Select the newly listed channel for the camera you wish to configure. In a few moments, its video output will appear in the Studio Monitor window.

- The Studio Monitor application's Settings menu shows an option near the bottom that lets you open the Device Webpage in your system web browser. Select this item, and continue as follows.

#### 1.4.2 LOGGING IN

**Note:** If you were unable to detect your camera using the methods described above, refer to the sub-heading Network Settings in Section 1.3.2 for details of an alternative way to locate it on the network.

- Enter the User Name "admin" and the default Password - also "admin".



FIGURE 1-6



## 1.1 VIDEO SOURCE

After logging in, your camera's options and controls are shown in your web browser (Figure 1-7).



FIGURE 1-7

The first tab shown on this web page is labeled Video Source. At the time of writing, a placeholder image substitutes for the 'monitor' on the web page. Below this, you will see:

- Video Bandwidth buttons
- Live Pan, Tilt, and Zoom controls
- Preset buttons

*Hint: Studio Monitor provides an excellent alternative to almost all of the settings on this first tab.*

### 1.1.1 VIDEO BANDWIDTH



FIGURE 1-8

Video Bandwidth controls (Figure 1-8) allow you to select between the default High bandwidth output, or Medium and Low reduced bandwidth options which, dependent on your network throughput capabilities and other traffic, or size of the image required to display on the receiver, may work better for you.







FIGURE 1-9

The highest Video Bandwidth setting outputs the same video format as you have selected using the Output DIP switches, located near the 3G-SDI connector on the camera's connector panel.

**NOTE:** The various DIP switch configurations for different output formats are depicted on a sticker on the underside of PTZ1's pedestal base. Typically, you might choose something like 1080p/59.94, or 1080p/50.

From left to right, the other Bandwidth options correspond to SD and 720P output formats.

### 1.1.2 PAN, TILT AND ZOOM



FIGURE 1-10

The Pan, Tilt controls and Zoom slider work much as you would expect.

Likewise the neighboring preset buttons are easy to use.

Simply click Store followed by a numbered Preset button to store the current PTZ1 position; click the numbered Preset button along to send the camera to the stored position.

## 1.2 AUDIO VIDEO SETTINGS

Click the second web page tab to reveal more advanced Audio/Video Settings (Figure 1-11).

Expanding the Video Settings control group shows additional nested tabs with various Exposure, Picture, White Balance, and Focus options.

A little lower on the page, you can expand the Audio Settings control group (Figure 1-12).



FIGURE 1-11



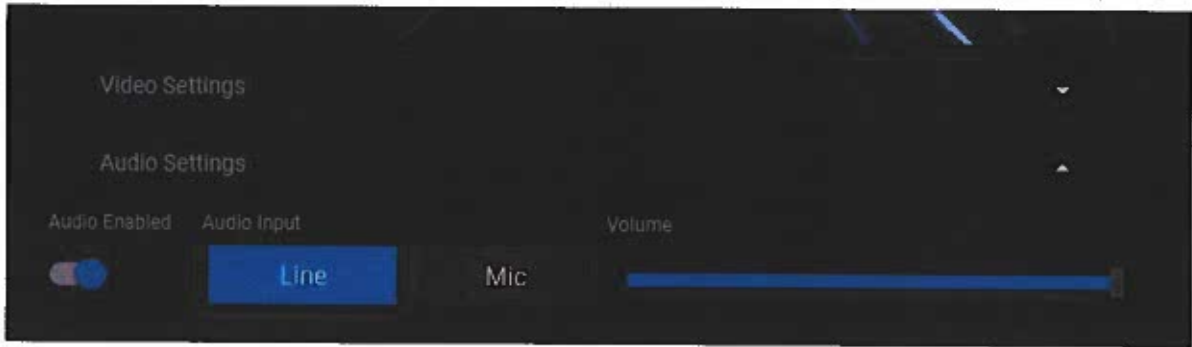


FIGURE 1-12

This group includes Audio Input level buttons labeled Line and Mic, along with the Volume slider. The switch at left allows you to completely disable audio output.

### 1.3 ADMINISTRATION



FIGURE 1-13

The third tab on the configuration web page is labeled Administration. Here you will find information and settings related to your camera, and its network connection.

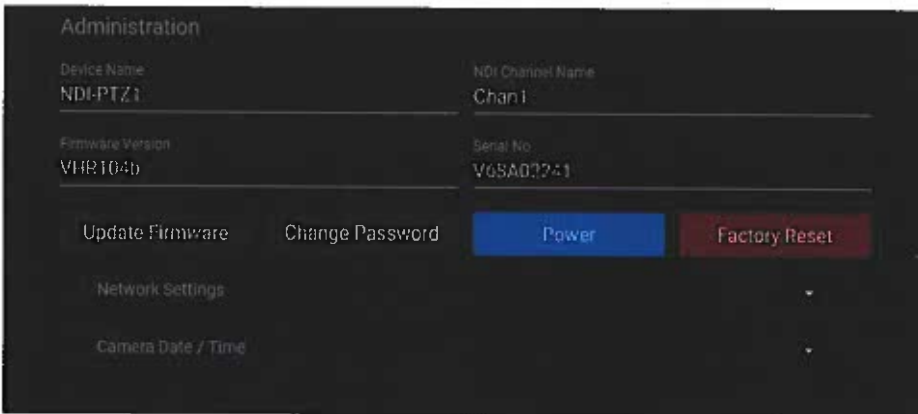
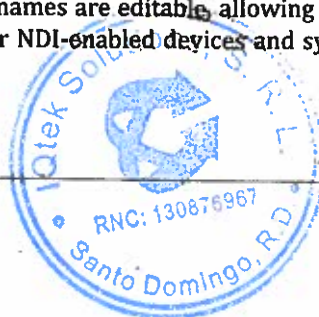


FIGURE 1-14

The uppermost section of this tab displays the Device Name and NDI Channel Name fields, which determine how your camera is identified on your NDI network. These names are editable, allowing you a convenient way to make identify the output of specific cameras to other NDI-enabled devices and systems connected downstream.



You will also see the Hardware and Firmware versions for your camera displayed in this area, along with its unique serial number. Buttons just below allow you to update the installed firmware, modify the default network password, or to power the device down ('sleep').

### 1.3.1 MULTICAST

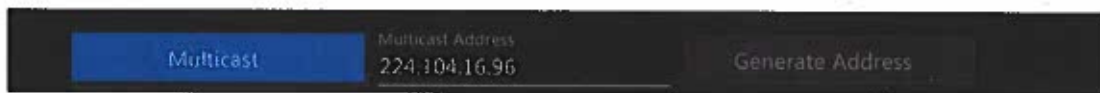


FIGURE 15

Click Multicast to transmit video using multicast, rather than the default unicast method. A suitable Multicast address is generated, but you can edit the result manually if you need to. To update the address to another random value, click Generate Address. *Please take time to consider the following information before enabling this feature.*

#### MULTICAST OR UNICAST?

Multicast can seem like a bandwidth-saving miracle. Unlike NDI's default mode (unicast), multicast does not require a unique stream from the source to each receiver. When using unicast, each connection to the sender reduces the bandwidth available by a similar amount.

By contrast, multicast connections do *not* add significantly to the bandwidth required as connections multiply. You could be forgiven for wondering why anyone would ever turn this option off - yet, it is off by default. Why?

This is because multicast requires more careful network configuration. While you might not notice any issues in a simple network setting; a poorly configured environment can have serious impact on more complex networks.

- Specifically, it is essential that IGMP snooping be enabled for each switch on the network. This lets the device listen to traffic between other hosts, switches and routers, and identify receiving ports using various IP multicast streams.
- In addition, we **strongly** recommend that all network switches be of the 'managed' type (see the sidebar "Managed vs. Un-managed").

#### Managed vs. Unmanaged

An un-managed (a.k.a., 'dumb') network switch will cause a multicast stream to revert to unicast. This can have serious ramifications.

For example, even though a device broadcasts a multicast stream, the un-managed switch will pass *unicast* packets to downstream switches and clients. This can flood parts of the network with unnecessary traffic. It can even slow down the rest of the network, as upstream devices are forced to wait for responses from the over-saturated devices.

The net result of such a poor setup can be likened to a self-inflicted denial of service ~~attack~~.



1.3.2 NETWORK SETTINGS



FIGURE 1-16

Controls in the Network Settings section will be familiar to anyone who has connected a computer or mobile device to a network, and thus require little explanation.

Typically, your network will be configured to automatically supply IP addresses to devices you connect to it by means of a DHCP server. Your camera’s IP Address resolution method is set to Dynamic by default, to take advantage of this scheme. To assign a static IP address to your PTZ1, change the IP Address setting to Manual.

*NOTE: Should the default IP Address mode (Dynamic) fail to provide a usable IP address within a minute or two of powering up – as when an active DHCP server is not found on the network – PTZ1 will automatically switch to Manual mode and attempt to connect using a static IP address. The default IP address is 192.168.100.168.*

1.4 TALLY

Your camera unit provides ‘tally’ notification from NDI devices supporting it. Specifically, the Power and Standby lights and located on the front of the pedestal base light up in red or green to tell you when video output from the device is visible on the Program output or Preview, as listed in the following table.

POWER	STANDBY	Indicates (tally state)
Green	Off	On preview
Red	Red	On program
Green	Red	On program and preview
Off	Off	Not on output



Section 2 REMOTE CONTROL & OSD



Some of the more exotic settings and options available on your NDI-PTZ1™ are supported by means of the onscreen display, and accessed via the included remote control. This section first describes the features of the latter, then provides a full list of options and settings in the 'OSD'.

2.1 REMOTE CONTROL

The following table identifies the various controls and buttons on your NDI-PTZ1™ remote control.

Item	Description
←,→,▲,▼	Pan or tilt the camera
Back Light	Enable/Disable backlight compensation
Camera select	Control 1 ~ 3 of VC-A50P
Auto	Auto focus
Focus: Manual, Far, Near	Turn on manual focus to adjust the focal length using the Far and Near buttons
Freeze	Freeze the screen
Home-Enter	Go back to the main page / Execute
Info	Status information
L/R Direction Set	L/R Direction / Normal
Menu	Display OSD menu
Mirror	Rotate the image (OFF / Mirror / Flip / Rotate)
Pan/Tilt Reset	Clear the Pan / Tilt setting
Picture	Image effect: OFF / NEG / Black & White
Power	Power Switch
Preset	Select a Preset (0 ~ 9) to store the current position data
Reset	Select a Preset (0 ~ 9) to clear
Zoom-Fast	Adjust image size
Zoom-Slow	Fine-tune image size



2.2 OSD MENU

Press the Menu button on the remote control to display the OSD (On Screen Display) and settings menu over your live video on PTZ1's hardware video output (SDI or HDMI).

*Hint: The bold underlined values in the following table are the defaults.*

The following tables detail the options available to you in the OSD settings menu.

Level 1	Level 2	Level 3		Description	
Exposure	Mode	1. Full Auto 2. Shutter Pri 3. Iris Pri 4. Manual 5. White Board 6. <b><u>Smooth Auto</u></b>		Exposure mode	
	Exposure Comp.	On / <b><u>Off</u></b>		AE Level	
	Exposure Level	Comp.	-6 ~ <b><u>0</u></b> ~ 5		Available when Exposure Comp. is enabled.
	Shutter Pri		60/30 mode	50/25 mode	
			1/10000	1/10000	
			1/5000	1/5000	
			1/3000	1/3000	
			1/2500	1/2500	
			1/2000	1/1750	
			1/1500	1/1250	
			1/1000	1/1000	
			1/725	1/600	
			1/500	1/425	
1/350			1/300		
1/250			1/215		
1/180	1/150				
1/120	1/120				
1/100	1/100				
1/90	1/75				
<b><u>1/60</u></b>	<b><u>1/50</u></b>				
1/30	1/25				
1/15	1/12				
1/8	1/6				
1/4	1/3				
1/2	1/2				
1/1	1/1				



<p><b>Iris Pri</b></p>	<ol style="list-style-type: none"> <li>1. <b>F1.6</b></li> <li>2. F2</li> <li>3. F2.2</li> <li>4. F2.7</li> <li>5. F3.2</li> <li>6. F3.8</li> <li>7. F4.5</li> <li>8. F5.4</li> <li>9. F6.3</li> <li>10. F7.8</li> <li>11. F9</li> <li>12. F11</li> <li>13. F13</li> <li>14. F16</li> <li>15. F18</li> </ol>	<p>Iris setting</p>																										
<p><b>Manual Gain</b></p>	<ol style="list-style-type: none"> <li>1. <b>0dB</b></li> <li>2. 2 dB</li> <li>3. 4 dB</li> <li>4. 6 dB</li> <li>5. 8 dB</li> <li>6. 10 dB</li> <li>7. 12 dB</li> <li>8. 14 dB</li> <li>9. 16 dB</li> <li>10. 18 dB</li> <li>11. 20 dB</li> <li>12. 22dB</li> <li>13. 24dB</li> <li>14. 26 dB</li> <li>15. 28 dB</li> <li>16. 30 dB</li> </ol>	<p>Manually set the gain</p>																										
<p><b>Manual Speed</b></p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">60/30 mode</th> <th style="text-align: left;">50/25 mode</th> </tr> </thead> <tbody> <tr><td>1/10000</td><td>1/10000</td></tr> <tr><td>1/5000</td><td>1/5000</td></tr> <tr><td>1/3000</td><td>1/3000</td></tr> <tr><td>1/2500</td><td>1/2500</td></tr> <tr><td>1/2000</td><td>1/1750</td></tr> <tr><td>1/1500</td><td>1/1250</td></tr> <tr><td>1/1000</td><td>1/1000</td></tr> <tr><td>1/725</td><td>1/600</td></tr> <tr><td>1/500</td><td>1/425</td></tr> <tr><td>1/350</td><td>1/300</td></tr> <tr><td>1/250</td><td>1/215</td></tr> <tr><td>1/180</td><td>1/150</td></tr> </tbody> </table>	60/30 mode	50/25 mode	1/10000	1/10000	1/5000	1/5000	1/3000	1/3000	1/2500	1/2500	1/2000	1/1750	1/1500	1/1250	1/1000	1/1000	1/725	1/600	1/500	1/425	1/350	1/300	1/250	1/215	1/180	1/150	<p>Manually set the shutter</p>
60/30 mode	50/25 mode																											
1/10000	1/10000																											
1/5000	1/5000																											
1/3000	1/3000																											
1/2500	1/2500																											
1/2000	1/1750																											
1/1500	1/1250																											
1/1000	1/1000																											
1/725	1/600																											
1/500	1/425																											
1/350	1/300																											
1/250	1/215																											
1/180	1/150																											



		1/120	1/120	
		1/100	1/100	
		1/90	1/75	
		<u>1/60</u>	<u>1/50</u>	
		1/30	1/25	
		1/15	1/12	
		1/8	1/6	
		1/4	1/3	
		1/2	1/2	
		1/1	1/1	
	<b>Manual Iris</b>	<ol style="list-style-type: none"> <li>1. <u>F1.6</u></li> <li>2. F2</li> <li>3. F2.2</li> <li>4. F2.7</li> <li>5. F3.2</li> <li>6. F3.8</li> <li>7. F4.5</li> <li>8. F5.4</li> <li>9. F6.3</li> <li>10. F7.8</li> <li>11. F9</li> <li>12. F11</li> <li>13. F13</li> <li>14. F16</li> <li>15. F18</li> </ol>		Manually set the iris
	<b>Gain Limit</b>	<ol style="list-style-type: none"> <li>1. 8 dB</li> <li>2. 10 dB</li> <li>3. 12 dB</li> <li>4. 14 dB</li> <li>5. 16 dB</li> <li>6. 18 dB</li> <li>7. <u>20 dB</u></li> </ol>		Maximum limit of electronic gain
	<b>Iris Limit</b>	<ol style="list-style-type: none"> <li>1. F1.6</li> <li>2. <u>F2.2</u></li> <li>3. F3.2</li> <li>4. F4.5</li> <li>5. F6.3</li> <li>6. F9</li> <li>7. F13</li> <li>8. F18</li> </ol>		Maximum limit value of iris

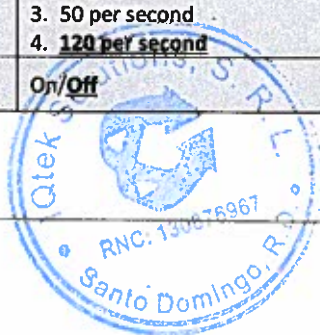




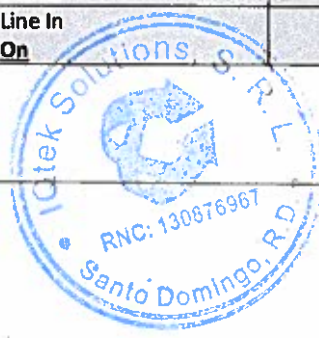
	<b>WDR</b>	<ol style="list-style-type: none"> <li>1. <b>Off</b></li> <li>2. 1</li> <li>3. 2</li> <li>4. 3</li> <li>5. 4</li> <li>6. 5</li> </ol>	WDR settings
<b>White Balance</b>	<b>Mode</b>	<ol style="list-style-type: none"> <li>1. <b>Auto</b></li> <li>2. <b>Indoor</b></li> <li>3. <b>Outdoor</b></li> <li>4. <b>One Push WB</b></li> <li>5. <b>ATW</b></li> <li>6. <b>Manual</b></li> <li>7. <b>Sodium Lamp</b></li> <li>8. <b>3000K</b></li> <li>9. <b>4300K</b></li> <li>10. <b>5000K</b></li> <li>11. <b>6500K</b></li> <li>12. <b>8000K</b></li> <li>13. <b>WideAuto</b></li> </ol>	Select color temperature mode <ol style="list-style-type: none"> <li>1. 4000k ~ 7000k</li> <li>2. 3200k</li> <li>3. 5800k</li> <li>4. 1700k ~ 10000k</li> <li>5. 1700k ~ 10000k</li> <li>6. Custom</li> <li>7. 2800k</li> <li>8. 3000K</li> <li>9. 4300K</li> <li>10. 5000K</li> <li>11. 6500K</li> <li>12. 8000K</li> <li>13. 3000k ~ 7000k</li> </ol>
	<b>One Push Trigger</b>	<b>ENTER</b>	One push trigger
	<b>Manual Red</b>	0 ~ <b>C</b> ~ 128	Adjustable when the white balance mode is set to <b>Manual</b>
	<b>Manual Blue</b>	0 ~ <b>C</b> ~ 128	Adjustable when the white balance mode is set to <b>Manual</b>
<b>Picture</b>	<b>Picture effect</b>	<ol style="list-style-type: none"> <li>1. <b>Off</b></li> <li>2. <b>Neg</b></li> <li>3. <b>B &amp; W</b></li> </ol>	Set the picture effect
	<b>Sharpness</b>	0 ~ <b>C</b> ~ 15	Adjust the <b>sharpness</b> of the image
	<b>2D NR</b>	<ol style="list-style-type: none"> <li>1. <b>Auto</b></li> <li>2. <b>Off</b></li> <li>3. 1</li> <li>4. 2</li> <li>5. 3</li> <li>6. 4</li> <li>7. 5</li> </ol>	2D noise reduction settings
	<b>3D NR</b>	<ol style="list-style-type: none"> <li>1. <b>Off</b></li> <li>2. <b>Low</b></li> <li>3. <b>Typ</b></li> <li>4. <b>Max</b></li> <li>5. <b>Auto</b></li> </ol>	3D dynamic noise reduction settings



	<b>Image Mode</b>	1. Mode 1 2. <b>Mode 2</b> 3. Mode 3 4. Mode 4 5. Mode 5 6. Mode 6 7. Custom	Customize desired image modes
	<b>Image Mode Load</b>	1. Mode 1 2. <b>Mode 2</b> 3. Mode 3 4. Mode 4 5. Mode 5 6. Mode 6	Adjustable when the <i>image mode</i> is set to <i>Custom</i> . After selection, the <i>image mode</i> parameters are read and applied to <i>Custom</i>
	<b>Brightness</b>	0 ~ <b>C</b> ~ 25	Adjustable when the <i>image mode</i> is set to <i>Custom</i>
	<b>Contrast</b>	0 ~ <b>C</b> ~ 25	Contrast adjustment; Adjustable when the <i>image mode</i> is set to <i>Custom</i>
	<b>Saturation</b>	0 ~ <b>C</b> ~ 25	Adjustable in the <i>Custom Mode</i>
	<b>Black Level</b>	1. <b>Off</b> 2. Type 1 3. Type 2 4. Type 3 5. Type 4 6. Type 5	Adjustable in the <i>Custom Mode</i>
	<b>Gamma</b>	0 ~ <b>C</b> ~ 3	Adjustable in the <i>Custom Mode</i>
	<b>Skin Tone</b>	0 ~ <b>C</b> ~ 5	Skin tone setting, adjustable in the <i>Custom Mode</i>
<b>Pan Tilt Zoom</b>	<b>Pan/Tilt Limit</b>	<b>ON/Off</b>	Turn on/off the angle limit setting
	<b>Pan Right Limit</b>	0 ~ <b>170</b>	Limit the right angle
	<b>Pan Left Limit</b>	<b>-170</b> ~ 0	Limit the left angle
	<b>Tilt UP Limit</b>	0 ~ <b>90</b>	Limit the upward angle
	<b>Tilt Down Limit</b>	<b>-30</b> ~ 0	Limit the downward angle
	<b>Pan Flip</b>	<b>On/Off</b>	Activate the reverse Pan command
	<b>Tilt Flip</b>	<b>On/Off</b>	Activate the reverse Tilt command
	<b>Preset Speed</b>	1. 5 per second 2. 25 per second 3. 50 per second 4. <b>120 per second</b>	Set the rotation speed of the cradle head when Preset is executed
	<b>PTZ Speed Comp</b>	<b>On/Off</b>	PTZ Speed Compensation



	<b>Zoom Limit</b>	X1 - <u>X20</u>	
<b>Dig-Effect</b>	<b>Mirror</b>	<ol style="list-style-type: none"> <li>1. <u>Off</u></li> <li>2. Mirror</li> <li>3. Flip</li> <li>4. Mirror + Flip</li> </ol>	Set the mode at which the image is turned
<b>Auto Focus</b>	<b>AF Sensitivity</b>	<ol style="list-style-type: none"> <li>1. Low</li> <li>2. <u>Middle</u></li> <li>3. High</li> </ol>	Select the AF triggering speed. The higher the speed is, the faster AF is triggered
	<b>AF speed</b>	Fast / <u>Normal</u>	Focus speed after AF triggering
	<b>AF Frame</b>	<u>Full Frame</u> /Center	AF frame setting, when central area was set as AF frame, focusing will be on the center of the screen. When Full Frame was set as AF frame, focusing will be calculated based on the full screen
	<b>PTZ Assist</b>	<ol style="list-style-type: none"> <li>1. On</li> <li>2. <u>Off</u></li> </ol>	<p>On: Focus In Manual mode, PTZ will trigger focus. Scene changes do not trigger focus (such as blocking the lens with paper)</p> <p>Off: Focus In Manual mode, PTZ will not trigger focus. Scene changes do not trigger focus, but retain Zoom Tracking (remember the last Zoom focus setting).</p>
<b>Ethernet</b>	<b>DHCP</b>	<u>On</u> / Off	Enable/Disable DHCP setting using left and right arrow keys and press [ENTER] to apply setting.
	<b>IP Address</b>	<u>192.168.100.168</u>	Press [ENTER] to modify the items; select the item to be modified using left and right arrow keys, and modify the value using numeric keys.
	<b>Subnet mask</b>	<u>255.255.255.0</u>	Press [ENTER] to modify the items; select the item to be modified using left and right arrow keys, and modify the value using numeric keys.
	<b>Gateway</b>	<u>0.0.0.0</u>	Press [ENTER] to modify the items; select the item to be modified using left and right arrow keys, and modify the value using numeric keys.
<b>Audio</b>	<b>Audio In</b>	<ol style="list-style-type: none"> <li>1. <u>Line In</u></li> <li>2. Mic In</li> </ol>	
	<b>Audio Enable</b>	<ol style="list-style-type: none"> <li>1. Line In</li> <li>2. <u>On</u></li> </ol>	



	<b>Audio Volume</b>	0 - 10	Defaults to 5
	<b>Audio Delay</b>	1. <b>Off</b> 2. <b>On</b>	
	<b>Audio Delay Time</b>	<b>-1ms</b> to -500ms	
<b>System</b>	<b>Prompt</b>	<b>On / Off</b>	Turn on/off the prompt information on the display
	<b>IR Receive</b>	<b>On / Off</b>	Turn on/off the infrared reception
	<b>Motionless Preset</b>	<b>On / Off</b>	When the function is enabled, the screen will Freeze when Preset is executed. Freeze will be released after Preset is completed.
	<b>Tally Lamp</b>	<b>Enable / Disable</b>	Turn on/off the Tally Mode
	<b>Audio In</b>	<b>Line In/Mic In</b>	Set Audio In
	<b>Audio Enable</b>	<b>On / Off</b>	Turn on/off sound output
	<b>Audio Volume</b>	0 ~ <b>C</b> ~ 10	Volume Setting
	<b>Language</b>	1. <b>English / Chinese</b>	Language
	<b>Initial Position</b>	<b>Last Mem</b> 1 <sup>st</sup> Preset	On bootup, return to the last position or Preset1
	<b>Control Device</b>	Encoder / <b>Controller</b>	Control Device: Controller: acceleration on Encoder: acceleration off
	<b>Protocol</b>	1. <b>Protocol V / Protocol PD</b>	Protocol V: VISCA Protocol PD: PELCO D
	<b>PD Address</b>	1 ~ <b>C</b> ~ 255	The Protocol set to PD allows the camera ID address to be assigned
	<b>Factory Reset</b>	<b>On / Off</b>	Resume the factory default setting
<b>FW Upgrade</b>	<b>On / Off</b>	Upgrade Firmware	
			Display the current setting status
<b>Status</b>			Displays current settings



## Section 3 MOUNTING NDI-PTZ1™



Of course it is vital that your camera installation be secure and safe. This section provides detailed information to help you ensure your installation poses neither safety nor environmental risks, and provides performance consistent with your expectations.

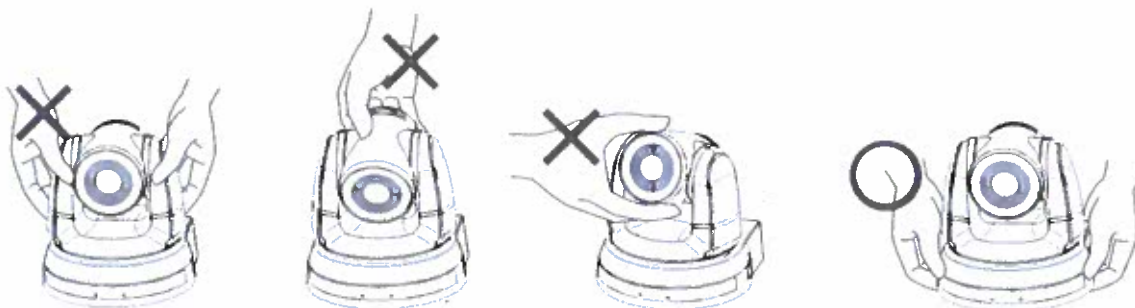
### 3.1 PREPARATION

Installation and connection of your camera requires some skill. Please ensure stable and secure mounting of the device, and pay attention to your personal safety and that of any other persons while mounting the unit to avoid any accident.

- Ensure a safety installation environment. Please do not install the device on an unstable ceiling or anywhere the unit would be in danger of falling. Be careful to avoid overhead or hidden hazards.
- Please choose a suitable place for installation of NDI-PTZ1 in advance. Please determine an installation place according to requirements which follow in this section.
- It is recommended that the unit be located more than 1 meter away from the object to be captured. Please adjust for a best distance according to the magnification of the lens, confirming the position suits the scene you wish to capture.
- Confirm the unit is a suitable distance from nearby light sources and any visual obstructions.

#### 3.1.1 OTHER PRECAUTIONS

- Handle and transport the unit by its pedestal base. Do not lift, carry or manipulate the camera head by hand, nor manually rotate the camera head (improper handling may damage the camera).

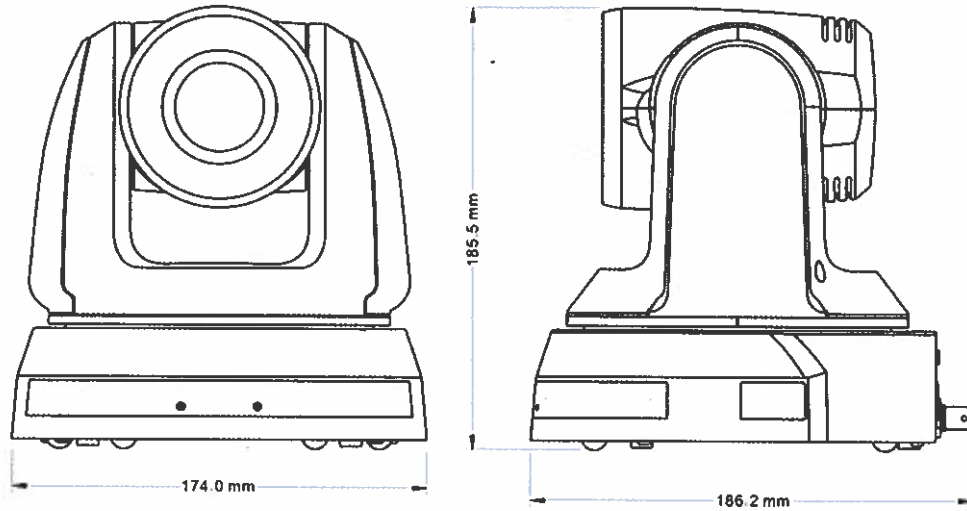


- Locate the parts and equipment required for installation
  - Accessories (metal plates A,B, M3 screw silver x 8, black x 2)
  - Screw for locking on ceiling mounted hanger x 4
  - Drill, screw driver, ladder

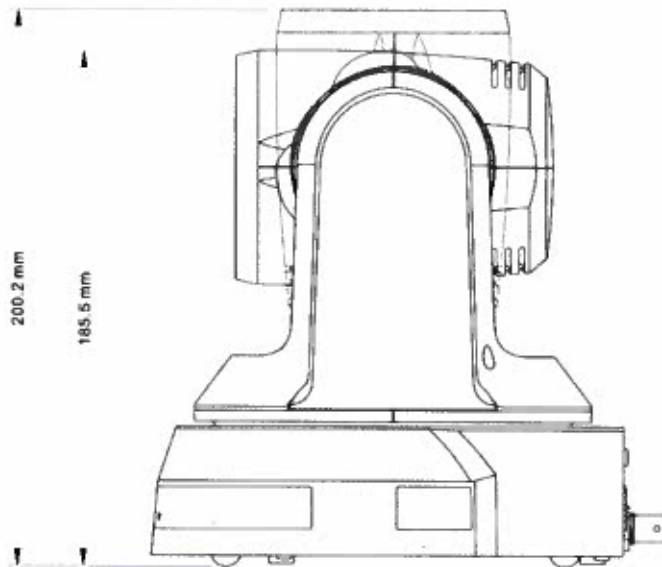


**DIMENSIONS**

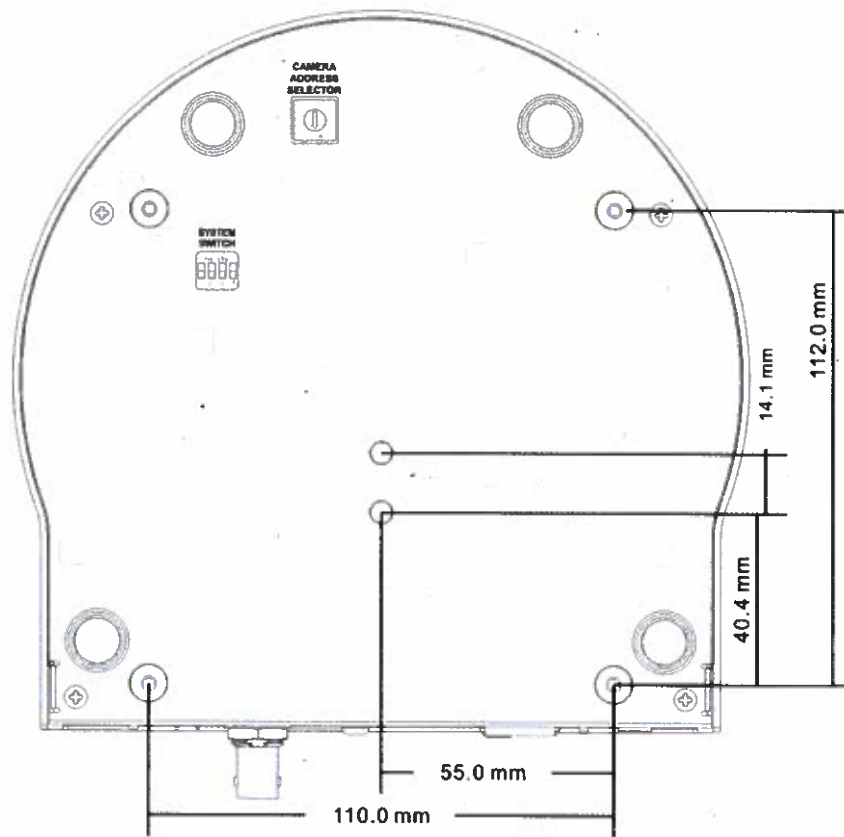
- Length x Width x Height: 174 x 186.2 x 185.5 mm
- Weight: 1.8 Kg



**MAX. ROTATIONAL DIMENSION**



## BOTTOM DETAILS



## 3.2 CEILING MOUNTING

The camera (including mounting plates) weighs about 2.5 kg. If it is to be installed on the ceiling, please use the supplied UL approved hanger, which is designed to prevent the unit from falling.

**NOTE:** Please check periodically to ensure the camera is installed securely.

- Please determine the desired resolution for the camera, and set it using the DIP switches before continuing.

**NOTE:** The various DIP switch configurations for different output formats are depicted on a sticker on the underside of PTZ1's pedestal base. Typically, you might choose something like 1080p/59.94, or 1080p/50.

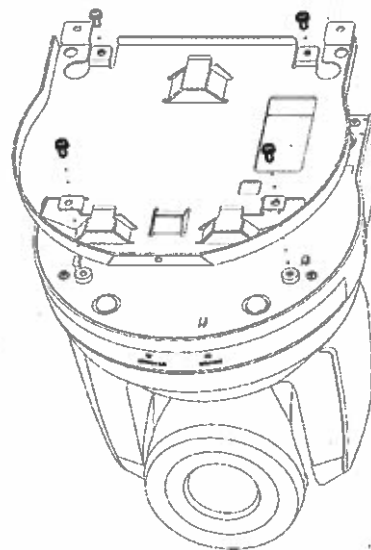
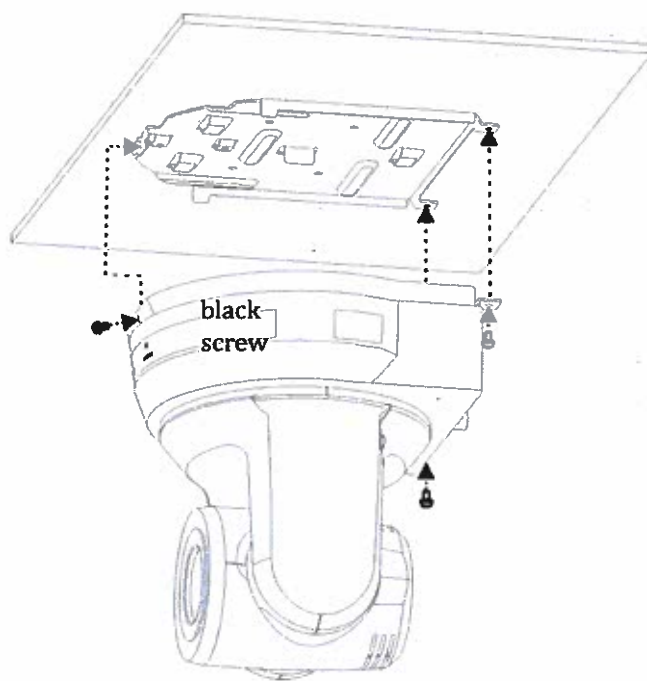
- Attach the metal plate (A) on the machine base using 4x M3 silver screws.



- Lock the metal plate B on ceiling mounted hanger

*Caution: Please use supplied UL approved mounting plate.*

- Combine the metal plates A and B
  - Push metal plate A up to the ceiling and then to the right to latch the metal plate B;
  - Then secure with 2x M3 silver screws and 1x M3 black screw.



### 3.3 REMOVAL

- Remove the connecting wires from the camera.
- Uninstall the camera together with the ceiling, loosen the three screws that fix the metal plates A and B and push to the left to remove the machine.
- Then remove the screws on the hanger and the camera.
- Loosen three screws affixing metal plates A and B, and slide the camera sideways to dismount it.
- Then remove the screws on the hanger and the machine.





## Section 4 ABOUT NDI®



NDI is much more than simply 'video over IP'. As you begin using it, you'll increasingly discover its many advantages. Soon you'll realize you never want to go back to simple 'point A to point B' methods of video transport.

This section provides a brief overview of NDI and the power it delivers to unleash your creativity and provide newfound production efficiency.

We live in a world in which virtually every computer system in the world is potentially connected to every other. Likewise, our countless mobile devices are connected too. These devices have high quality screens, fast processors and cameras. It is no surprise, then, that efficient, economical, non-linear video transfer in IP space is augmenting and even superseding traditional linear connection methods (SDI, HDMI, etc.) and systems.

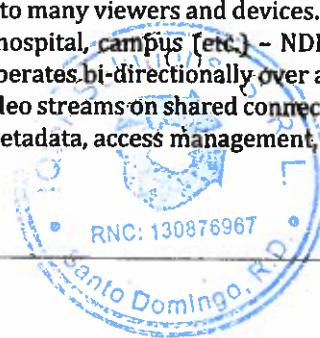


NewTek NDI® (Network Device Interface) makes it easy to share high-quality video over a local Ethernet network. However, the NDI vision is vastly exciting than any mere 'cable upgrade'. Production systems using IP to integrate data, video, and audio are transforming live video production in ways that would have seemed miraculous just a few years ago. You can think of NDI as turning your network into a 'video internet'.

## 4.1 A 'VIDEO INTERNET'



Like a webpage, each NDI source is instantly available to many viewers and devices. Wherever your network extends – throughout your office, broadcast studio, hospital, campus (etc.) – NDI is ready for immediate display, capture, replay, production, and more. NDI operates bi-directionally over a local area network, and supports many ultra-low latency, ultra-high quality video streams on shared connections. It is resolution and framerate independent, and natively supports tally, metadata, access management, and more.



NDI's superb performance over standard 1Gbit/s networks makes it possible to transition facilities to an incredibly versatile IP video production pipeline without negating existing investments in SDI infrastructure, or costly new high-speed network installations. NDI|HX is a high-efficiency NDI mode expressly designed to facilitate wifi and long distance connections.

#### 4.2 NDI BENEFITS

The NDI concept is simple: You supply a video source – in this case, an NDI stream from your NewTek NDI-PTZ1™. At that point, anyone else on that network can see it and work with it just as if it was a locally connected to their system (unless you deliberately limit access).

In this brave new world of IP video, you hardly need to think about capture cards, SDI, HDMI connections, a/v formats, etc. You also enjoy freedom from dependency on distribution amps, video matrix routers, and the like. There are many hundreds of software and hardware systems with native NDI input and output support – both commercial and open source. Now you can supply your video to these without running bulky cables over long distances.

More than simply replacing a cable, though, NDI enables multiple applications to access the same sources at the same time. For example, you might simultaneously send high-quality, low latency video to your video mixer system, while also streaming it and capturing it elsewhere on your network.

For a deeper introduction to the world of NDI, download and install the free NewTek NDI Tools pack from [www.NDI.NewTek.com](http://www.NDI.NewTek.com), which includes a Getting Started with NDI guide.

#### 4.3 NDI VIRTUAL INPUT

If you installed the NDI|HX driver for Windows™, you were given the opportunity to install NewTek NDI Virtual Input at the same time. This is a very useful application that allows you to make a designated NDI source available on the local as a proxy 'webcam'.

In turn, this means that you can quickly and flexibly assign NDI sources from your network to supply video to applications like Skype™, Google + Hangouts™, GoToMeeting™, and many more.

*Hint: At the time of installation, you will be asked whether you would like to Virtual Input to be launched automatically when you boot the system. In most situations you may want to choose this option.*

When running, NDI Virtual Input adds a small icon to the Windows task tray (Figure 4-2).

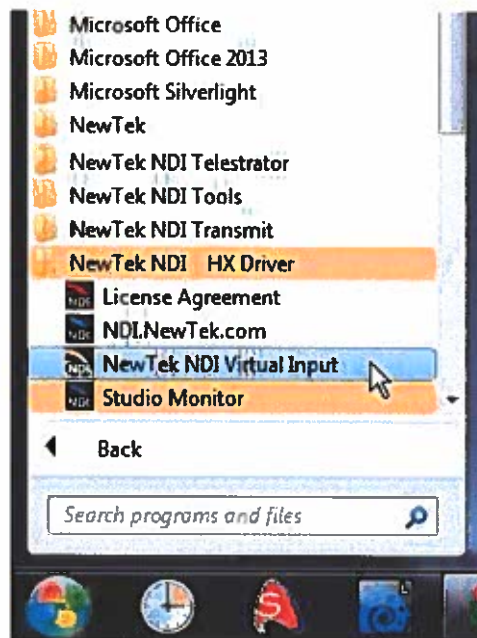


FIGURE 4-1





FIGURE 4-2

Configuring (and using) Virtual Input is very easy:

- Simply right-click the icon to select an NDI source from your network (Virtual Input requires that at least one NDI|HX source must be detected on the network for this to work).
- The Settings menu item allows you mute or adjust audio levels, or select a Low Bandwidth mode, as you might do to make optimal use of your network when a lower resolution image will suffice.

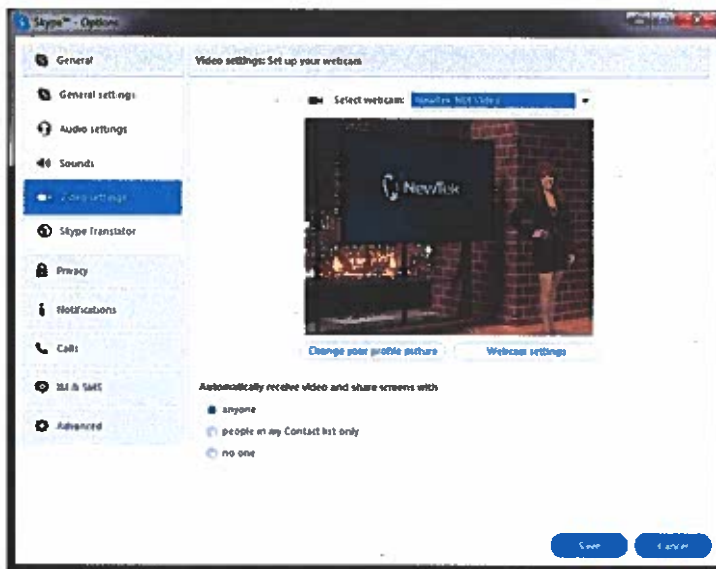


FIGURE 3

- Afterward, you will see an entry named NewTek NDI Video (or Audio) listed along with any other qualified sources available to applications like Skype™, etc.



## Section 5 END USER LICENSE AGREEMENT

This NewTek Software License and Limited Warranty applies to combined software/hardware product provided including but not limited to:

TriCaster® TC1, TriCaster® TCXD8000™, TriCaster® TCXD860™, TriCaster® TCXD460™, TriCaster® TCXD410™, TriCaster® Mini™, TriCaster® Mini SDI™, TriCaster® TCXD40™, MDS1, Media DS, VMC1, NC1 IN, NC1 I/O, VMC1 IN, VMC1 OUT, 3Play™ 3PXD4800™, 3Play™ 3PXD440™, 3Play Mini™, 3Play™ 3PXD425™, TalkShow™, NewTek TC1, NewTek VMC1, NewTek NC1 IN, NewTek NC1 I/O, NewTek VMC1 OUT, TalkShow, TalkShow VS 4000, TalkShow VS100, Network Device Interface, NDI, NewTek Connect, NewTek Connect Pro, NewTek IsoCorder, NewTek IsoCorder Pro, NewTek NDI PTZ Camera, NewTek Connect Spark SDI, NewTek Connect Spark HDMI, NewTek NVG1 Vizrt IP Graphics Server, including all Factory Reconditioned versions of the above Products (except TalkShow factory reconditioned products).

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This license does not replace the NDI License for developers, which are under separate SDK license agreement.

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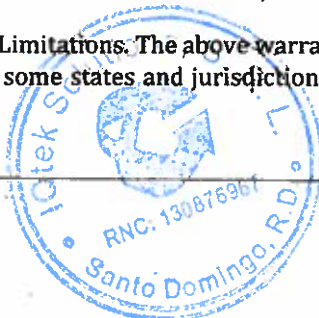
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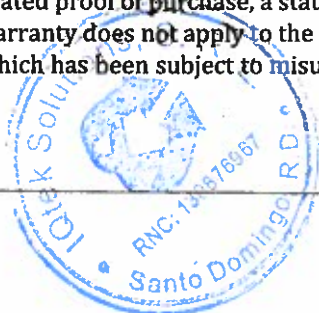
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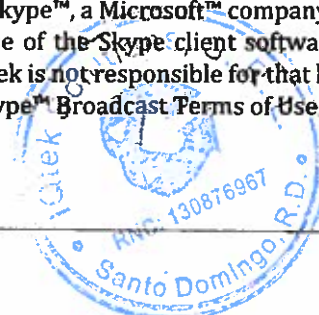
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**Engineering:** Andrew Cross, Alvaro Suarez, Brian Brice, Cary Tetrick, Charles Steinkuehler, Dan Fletcher, Gil Triana, Greg Heine, James Killian, Jan Uribe, Jarröd Davis, Jeremy Wiseman, John Perkins, Karen Zipper, Kevin Rouviere, Kirk Morger, Mahdi Mohajer, Masaaki Konno, Matt Gomer, Menghua Wang, Michael Watkins, Mike Murphy, Nathan Kovner, Naveen Jayakumar, Ryan Hansberger, Shawn Wisniewski, Steve Bowie, Troy Stevenson, Zack Lounsbury

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**NDI**



QNAP

SMB 9-bay NAS

# TS-932X



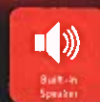
Annapurna Full Technical Support  
New AL324 64-bit Quad Core A57



- Quad-core 1.7GHz independent hardware encryption engine with 32K DMIPS computing power
- Built-in dual 10GbE SFP+ ports for high-speed connectivity
- Hybrid hard disk configuration, Qtier™ auto-tiering storage and SSD caching
- The 8GB model supports up to 256 full-system snapshots to help you mitigate the impact of ransomware attacks

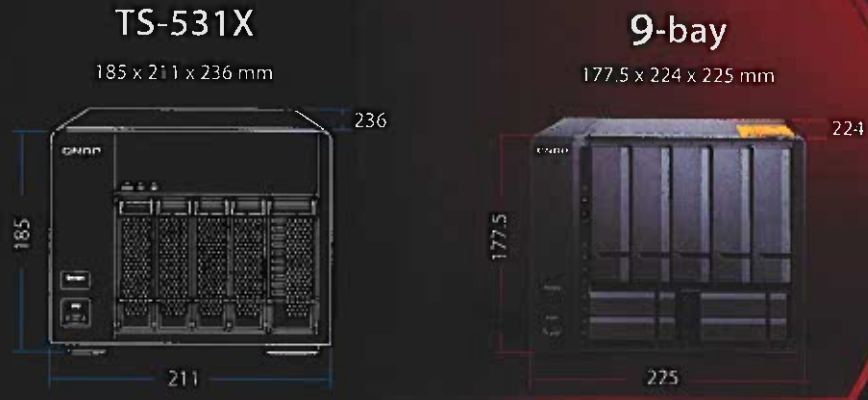


TS-932X-2G / TS-932X-8G



## Small size, large capacity

The 9-bay TS-932X packs five 3.5-inch and four 2.5-inch drive bays into the same physical space as a 5-bay NAS. This compact size makes the TS-932X ideal for small businesses and studios that lack the space for large servers.



## AnnapurnaLabs AL324 64-Bit Quad Core 1.7GHz processor with built-in 10GbE SFP+ dual-network ports

Windows File Transfer (2 x 10GbE)

Download

Upload

835 MB/s

1966 MB/s

Windows File Transfer (2 x 10GbE)

Download

Upload

478 MB/s

1148 MB/s

10 Gigabytes file transfer

Tested in QNAP Labs. Performance may vary depending on usage environment.

## Efficient cooling for consistent high performance

The TS-932X has an optimized airflow design that provides effective cooling to dissipate the buildup of heat within the system. This ensures that even under the heaviest load, the system and applications are not impacted by rising temperatures.





## SSD cache with auto-tiered storage, for 24/7 storage acceleration

With four 2.5-inch drive bays, the TS-932X provides dedicated space for SSD caching. By implementing an SSD cache, IOPS-demanding applications and the overall system performance can be greatly boosted. The TS-932X also supports QNAP's Qtier™ technology, which greatly optimizes storage utilization by automatically moving files/data to high-performance SSD or high-capacity HDD based on how frequently they are accessed. The latest version of Qtier™ also features IO awareness to simulate a cache space in the SSD layer.

5 x 3.5-inch hard drives  
High-capacity storage



2x SSD for caching, RAID1

4x SSD for Qtier, RAID5

2GB  
RAM

8GB  
RAM

Maximum number of  
snapshots per NAS

64

256

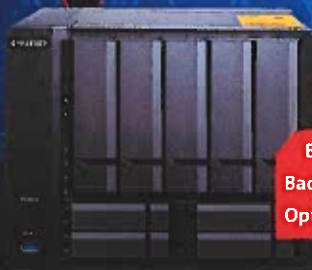
Single Volume / LUN  
Maximum number of snapshots

32

64

## Protect data with snapshots

Snapshots completely record the NAS system status and data (including metadata). If a file is accidentally modified, deleted or afflicted with malware, you can quickly restore the file contents from your most-recent snapshot.



Best  
Backup  
Option



## Implement a professional surveillance environment with QVR Pro

QNAP's next-generation surveillance solution QVR Pro enables you to host an independent surveillance environment on the TS-932X and to benefit from easy storage expansion. Camera management, video storage planning, real-time monitoring, and video playback have become much easier. You can view camera footage at any time from your computer or mobile devices. Budget-conscious users can also save money on expensive IP cameras by using USB webcams.

\* QVR Pro requires at least 4GB RAM.



## Expand NAS storage capacity with VJBOD

QNAP VJBOD (Virtual JBOD) allows you to expand the capacity of a QNAP NAS by using the unused storage space of another QNAP NAS! This allows you to fully maximize the available space of multiple QNAP NAS, and also allows you to easily expand the capacity of the TS-932X as needed.



## Productivity tools

File Station not only allows you to browse local NAS files, it can also access a wide range of USB devices. Use OCR Converter to convert text in image files to readable documents. Qfiling helps you automatically organize and archive files. The Qsirch full-text search engine helps you quickly find the files you need. Easier file backup, application, management, and search.



## Hardware Specifications

Ordering SKU	TS-932X-2G	TS-932X-8G
CPU	AnnapurnaLabs, an Amazon company Alpine AL-324 Quad Core 1.7GHz ARM® Cortex-A57 Processor, 64-bit	
System memory	2GB DDR4 (1 x 2GB, Max.16GB)	8GB DDR4 (1 x 8GB, Max.16GB)
Drive bays	5 x 3.5-inch + 4 x 2.5-inch SATA 6Gb/s	
LAN	2 x 10GbE SFP+ and 2 x 1GbE RJ-45 port	
USB	3 x USB 3.0 type-A (1 x One touch copy)	
Audio output	Built-in speaker and 3.5mm line out jack	
Dimensions and net weight	177.5 x 224 x 225mm / 6.98 x 8.82 x 8.86 inches Net Weight: 3.53 kg (7.78 lbs)	

## Software Specifications

Supported hard disk group types	RAID 0/1/5/6/10/50/60, + hot spare, single, JBOD
Supported protocols	CIFS/SMB, AFP (v3.3), NFS (v3), FTP, FTPS, SFTP, TFTP, IIOP(S), Telnet, SSH, iSCSI, SNMP, SMIP and SMSC
Pre-installed file system	EX14
Supported external device file systems	EXT3, EXT4, NTFS, FAT32, HFS+
Other Features	File Station, Photo Station, Music Station, Video Station, Download Station, Qsync, Notes Station, FTP Server, Print Server, VPN Server, VPNClient, Antivirus Protection, Hybrid Backup Sync, QVPN, Qsirch, Qfiling, DLNA Server, Airplay, Chromecast, iTunes Server

\* Model specifications are subject to change without prior notice. To see the latest specifications, go to <https://www.qnap.com>.

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NTNC-02442-1-45  
201305-14-1-A



### Technical Specifications



# EURORACK PRO RX1602

Professional Multi-Purpose 16-Input Ultra-Low Noise Line Mixer



[behringer.com](http://behringer.com)



EN

# EURORACK PRO RX1602

## Professional Multi-Purpose 16-Input Ultra-Low Noise Line Mixer

- Extremely flexible multi-purpose sub-mixer, multi-track monitoring mixer and level translator
- 16 balanced high-headroom line inputs for individual stereo or mono use of each section
- Ultra-low noise ULN design, highest possible headroom, ultra-transparent audio
- Dedicated balance and level controls plus +4/-10 level selection per channel
- Monitor/FX Send control per section with global master send control for flexible monitoring, recording or effects applications
- Illuminated double-function "mute" button per section with additional "clip" indication provides comfortable input source/level information
- Monitor/FX signal assignable to phones output for added flexibility
- Highly accurate 2 x 7-segment LED level meters and individual level control for left and right main mix signal
- ¼" TRS main mix outputs plus easily accessible headphones output on the front panel with dedicated level control
- High-quality detented rotary controls for long-term reliability
- Shielded toroidal power transformer for lowest noise interference
- High-quality component components and exceptionally rugged construction ensure long life
- Conceived and designed by BEHRINGER Germany

## Specifications

Audio Inputs		Mon Out	
<b>INPUT L/R</b>		Type	¼" TRS connector, unbalanced, mono
Type	¼" TRS connector, electronically balanced	Impedance	approx. 120 Ω
Impedance	approx. 20 kΩ balanced, approx. 10 kΩ unbalanced	Max. output level	+22 dBu
Gain range	-∞ to +15 dB	<b>Phones Output</b>	
Operating level	variable, +4 dBu/-10 dBV (switchable)	Type	¼" TRS connector, stereo
Max. input level	+22 dBu	Minimum load impedance	100 Ω
Common-mode rejection CMRR @ 1 kHz	typ. 44 dB	<b>System Specifications</b>	
<b>Audio Outputs</b>		Bandwidth	20 Hz - 20 kHz +/-0.2 dB
<b>MAIN OUT L/R</b>		Frequency range	20 Hz - 200 kHz +/-0.3 dB
Type	¼" TRS connector, unbalanced	Signal-to-noise ratio	< -97 dB
Gain range	-∞ to +15 dB	THD	0.0025% @ +4 dB input 1 kHz gain 1
Impedance	approx. 120 Ω	Crosstalk	< -70 dB
Max. output level	+22 dBu		



**Power Supply****Voltage**

USA/Canada	120 V~, 60 Hz
Europe/U.K./Australia	230 V~, 50 Hz
Japan	100 V~, 50 - 60 Hz
General export model	120/230 V~, 50 - 60 Hz
Power consumption	max. 14 W
Fuse	100 - 120 V~: T 630 mA H 200 - 240 V~: T 315 mA H
Mains connection	Standard IEC connector

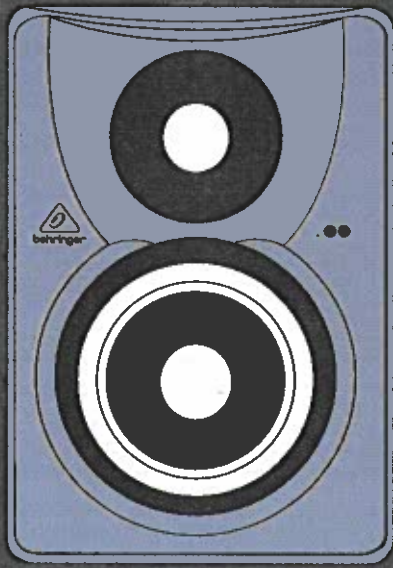
**Dimensions/Weight**

Dimensions	approx. 1 ¾ x 19 x 8 ½" approx. 44.5 x 482.6 x 217 mm
Weight	approx. 5.07 lbs / 2.30 kg
Shipping weight	approx. 7.83 lbs / 3.55 kg



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Quick Start Guide (Visit [behringer.com](http://behringer.com) for Full Manual)



# TRUTH B1031A

High-Resolution, Active 2-Way Reference Studio Monitor with 8" Kevlar Woofer



2 TRUTH81031A

EN Important Safety Instructions



Installment must be done with this symbol carry electrical current of sufficient magnitude to constitute a risk of electric shock.

This symbol, whenever it appears, alerts you to the presence of unannounced dangerous voltage inside the enclosure - voltage that may be sufficient to constitute a risk of shock.

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This symbol, whenever it appears, alerts you to the presence of unannounced dangerous voltage inside the enclosure - voltage that may be sufficient to constitute a risk of shock.

Caution To reduce the risk of electric shock, do not remove the top cover for the rear section. No user serviceable parts inside. Refer servicing to qualified personnel.

Caution To reduce the risk of fire or electric shock, do not connect the appliance to rain and outdoors. The appliance shall not be exposed to dripping or splashing liquids and no subjects filled with liquids, such as water, should be placed on the appliance.

Caution These service instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operation instructions. Repairs have to be performed by qualified service personnel.

- 1. Read these instructions.
2. Keep these instructions.
3. Read all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings.
8. Do not install near any heat sources.

9. 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.

10. Protect the power cord from being walked on or placed particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

11. Use only attachments/accessories specified by the manufacturer.

12. The only way with the cart stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, one person should move the cart/appliance combination to avoid injury from tip-over.

13. Unplug this apparatus during lightning storms or when unused for long periods of time.

14. Refer all servicing to qualified service 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 on objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

15. The apparatus shall be connected to a MANSI socket outlet with a protective earthy connection.

16. Where the MANSI plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily accessible.

17. Correct disposal of this product: This symbol indicates that this product must not be disposed of with household waste. According to the WEEE Directive (2012/19/EU) and your national law this product should be taken to a collection center for the recycling of waste electrical and electronic equipment (WEEE). The malfunctioning of this type of waste could have a possible negative impact on the environment and human health due to potentially hazardous substances that are generally associated with WEEE. At the same time, your cooperation in the correct disposal of the product will contribute to the efficient use of natural resources. For more information about where you can take your waste equipment for recycling, please contact your local city office, or your household waste collection service.

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ES Instrucciones de seguridad



Las instalaciones eléctricas con este símbolo representan un riesgo eléctrico de magnitud suficiente como para constituir un riesgo de descarga eléctrica. Utilice solo cables de altura profesional y de alta calidad con conectores TS de 6.3 mm o de tipo prefabricados. Cualquier otra instalación o modificación debe ser realizada únicamente por un técnico cualificado.

Este símbolo, siempre que aparezca, le advierte de la presencia de voltaje peligroso sin aviso previo de la caja. Este voltaje puede ser suficiente para constituir un riesgo de descarga.

Este símbolo, siempre que aparezca, le advierte de la presencia de voltaje peligroso sin aviso previo de la caja. Este voltaje puede ser suficiente para constituir un riesgo de descarga.

Atención Para reducir el riesgo de descarga eléctrica, no quite la tapa de la parte posterior. No hay piezas en el interior del equipo que puedan ser reparadas por el usuario. Si es necesario, póngase en contacto con personal cualificado.

Atención Para reducir el riesgo de incendio o descarga eléctrica, no exponga este aparato a la lluvia, humedad o alguna otra fuente que pueda aplicar o derramar algún líquido sobre el aparato. No coloque ningún tipo de recipiente para líquidos sobre el aparato.

Atención Las instrucciones de servicio deben leerse a cabo exclusivamente por personal cualificado. Para evitar el riesgo de una descarga eléctrica, no realice reparaciones que no se encuentren descritas en el manual de operaciones. Las reparaciones deben ser realizadas exclusivamente por personal cualificado.

- 1. Lea las instrucciones.
2. Conserve estas instrucciones.
3. Preste atención a todas las advertencias.
4. Siga todas las instrucciones.
5. No use este aparato cerca del agua.
6. Limpie este aparato con un paño seco.
7. No bloquee las aberturas de ventilación. Instale el equipo de acuerdo con las instrucciones del fabricante.
8. No instale este equipo cerca de fuentes de calor tales como radiadores, acumuladores de calor, estufas o otros aparatos (incluyendo amplificadores) que puedan producir calor.

9. No elimine o deshabilite nunca la conexión a tierra del aparato o del cable de alimentación de corriente. No elimine el enchufe basado en los polos, uno de los cuales tiene un contacto más ancho que el otro. Una conexión con puesta a tierra asegura de los conductores del polo y la puesta a tierra. El contacto ancho y el tener contacto, respectivamente, con los que garantiza una mayor seguridad. Si el enchufe suministrado con el equipo no concuerda con la toma de corriente, consulte con un electricista para cambiar la toma de corriente adecuada.

10. Coloque el cable de suministro de energía de manera que no pueda ser pisado y que esté protegido de objetos afilados. Evite que el cable de suministro de energía esté protegido, especialmente en la zona de la cocina y en el punto donde sale del aparato.

11. Use únicamente los dispositivos y accesorios especificados por el fabricante.

12. Use únicamente la carcasa, el protector, el soporte o la mesa especificados por el fabricante o suministrados junto con el equipo. Al transportar el equipo, tenga cuidado para evitar golpes y caídas al transportar con el equipo.

13. Desconecte el equipo después de usarlo o si no va a utilizarlo durante un período largo.

14. Consulte los reparaciones únicamente a servicios técnicos cualificados. La unidad superior no debe ser reparada nunca. Si hay un problema con la unidad superior, se deberá desmontar el equipo o haberse cambiado alguna pieza del equipo. Si el aparato hubiera estado expuesto a la humedad o a la lluvia, sólo el servicio de reparación autorizado o el fabricante puede repararlo.

15. Al conectar la unidad a la toma de corriente eléctrica asegúrese de que la conexión dispone de una tierra a tierra.

16. Si el modelo o conexión de red tiene como base medio de desconexión, éste debe ser accesible fácilmente.

17. Cómo debe declararse de este aparato: Este símbolo indica que este aparato no debe ser tratado como basura orgánica, según lo indicado en la Directiva WEEE (2012/19/EU) y las normativas aplicables en su país. En lugar de ello, deberá llevarse al punto limpio más cercano para el reciclaje de sus elementos eléctricos / electrónicos (EEE). No haga este estado si no puede llevarlo al punto limpio más cercano para el reciclaje de sus elementos eléctricos / electrónicos. Además, el reciclaje de materiales ayuda a conservar los recursos naturales. Para más información acerca del reciclaje de este aparato, póngase en contacto con el Ayuntamiento de su ciudad o con el punto limpio local.

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Handwritten signature or mark.

4 TRUTH MEDIA

FR Consignes de sécurité



Les points négligés par ce symbole peuvent être l'origine de dommages graves...

FR

DE

Ce symbole avertit de la présence d'une tension dangereuse et non isolée à l'intérieur de l'appareil...

Attention Ce symbole avertit des consignes d'utilisation et d'entretien...

Attention Pour éviter tout risque de choc électrique, ne pas ouvrir le capot de l'appareil...

Attention Pour réduire les risques de feu et de choc électrique, n'imposez pas cet appareil à la pile...

Attention Ces consignes de sécurité et d'entretien sont destinées à un personnel qualifié...

- 1. Lire ces consignes. 2. Conserver ces consignes. 3. Respecter tous les avertissements. 4. Respecter toutes les consignes d'utilisation. 5. N'utiliser jamais l'appareil à proximité d'un liquide. 6. Nettoyer l'appareil avec un chiffon sec. 7. Veiller à ne pas empêcher la bonne ventilation de l'appareil... 8. Mélangerez-vous l'appareil à proximité d'une source de chaleur...

9. Ne réparez jamais la sécurité des piles alcalines ou des piles terre. Les piles alcalines possèdent deux contacts de largeur différente...

10. Installer le cordon d'alimentation de telle façon que personne ne puisse marcher dessus...

11. Utiliser exclusivement des accessoires et des appareils supplémentaires recommandés par le fabricant.

12. Utiliser exclusivement des câbles, des diodes, des condensateurs, des points et des surfaces de travail recommandés par le fabricant...

13. Débrancher l'appareil de la tension secteur en cas d'usage ou si l'appareil reste inutilisé pendant une longue période de temps.

14. Les travaux d'entretien de l'appareil doivent être effectués uniquement par du personnel qualifié.

17. Mettre un étiquetage approprié de ce produit. Ce symbole indique que le produit est conforme à la directive DEEE (2012/19/UE) et les lois en vigueur dans votre pays...

Équipement pour le recyclage, veuillez contacter votre maire ou votre centre local de collecte des déchets.

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DE Wichtige Sicherheitshinweise



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Achtung Um eine Gefährdung durch Feuer bzw. Stromschlag zu vermeiden, darf dieses Gerät weder Regen oder Feuchtigkeit ausgesetzt werden...

Achtung Die Service-Einstellung sind nur durch qualifiziertes Personal zu betreiben. Eine Gefährdung durch Stromschlag zu vermeiden...

- 1. Lesen Sie diese Hinweise. 2. Beachten Sie alle Warnhinweise. 3. Beachten Sie alle Bedienungsanweisungen. 4. Beachten Sie das Gerät nicht in der Nähe von Wasser. 5. Beachten Sie das Gerät mit einem trockenen Tuch. 6. Beachten Sie die Befehlshinweise. Beachten Sie bitte auch die Befehlshinweise. 7. Stellen Sie das Gerät nicht in der Nähe von Wärmequellen auf. 8. Wichtige Hinweise oder andere Hinweise entnehmen Sie bitte dem Handbuchs. 9. Entfernen Sie in keinem Fall die Schutzabdeckung von Druck- oder geräuscharmen Stellen...

Entsprechend dem Bild der Sicherheit. Falls das angegebene Sicherkeitsmerkmal nicht zu Ihren Sicherheitspunkt, wenden Sie sich bitte an einen Elektriker...

10. Verlegen Sie das Netzband so, dass es vor Regen und anderen Witterungsbedingungen geschützt ist und nicht beschädigt werden kann...

11. Das Gerät muss jederzeit mit funktionalem Schutzblech an die Stromversorgung angeschlossen sein.

12. Sollte der Hauptstromkreis oder eine Geräteabdeckung die Funktionsfähigkeit zum Abbruch sein, muss diese immer zugänglich sein.

13. Verwenden Sie nur Zusatzgeräte/Zubehörteile, die für Hersteller geeignet sind.

14. Verwenden Sie nur Wagen, Stützverkleidungen, Ständer, Halter oder Tische, die vom Hersteller empfohlen oder in Verbindung mit dem Gerät empfohlen sind...

15. Ziehen Sie den Netzstecker bei Gewitter oder wenn Sie das Gerät länger Zeit nicht benutzen.

16. Lassen Sie alle Wartungsarbeiten nur von qualifiziertem Service-Personal durchführen. Eine Wartung ist notwendig, wenn das Gerät in irgendeiner Weise beschädigt wurde (z. B. Beschädigung des Netzbandes oder Ständer), Körperstände oder Feuchtigkeit in das Gehäuse gelangt sind, das Gerät nicht ordnungsgemäß funktioniert oder auf dem Boden gelassen ist.

HAFTUNGSAUSSCHLUSS

MUSK Group übernimmt keine Haftung für Verluste, die Personen entstanden sind, die sich gegenseitig oder selbstverursacht auf ihrer enthaltenen Beschreibungen, Erklärungen und anderen Informationen basieren...

BESCHRÄNKTE GARANTIE

Die geltenden Gewährleistungsregeln und zuzätzliche Informationen bezüglich der von MUSK Group gewährten beschränkten Garantie finden Sie online unter...

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**PT** Instruções de Segurança Importantes



**Atenção**  
Terminado marcado com o símbolo Cuidado com a energia elétrica de magnetismo induzido para evitar um risco de choque elétrico. Use apenas cabos de alta-tensão de alta qualidade com plugues IS de 16" e plugues com trava de bloqueio por travação. Todas as outras instalações e modificações devem ser efetuadas por pessoas qualificadas.

Este símbolo, onde quer que o escudo, alerta-o para a leitura das instruções de manutenção que acompanham o equipamento. Por favor leia o manual de instruções.

**Atenção**  
De forma a diminuir o risco de choque elétrico, não remover a cobertura (ou a seção de tela). Não cubra peças substituídas por parte de utilizador ou seu técnico. Para esse efeito consulte a sua técnica qualificada.

**Atenção**  
Para evitar o risco de lesões ou choques elétricos o aparelho não deve ser exposto à chuva nem à humidade. Além disso, não deve ser exposto a objetos, nem deve ser colocado em cima de qualquer objeto condutor térmico, tal como jarras.

**Atenção**  
Essas instruções de operação devem ser utilizadas, em conjunto, por técnicos de assistência qualificadas. Para evitar choques elétricos não proceda a reparações ou intervenções, que não as indicadas nas instruções de operação, salvo se possuir as qualificações necessárias. Para evitar choques elétricos não proceda a reparações ou intervenções, que não as indicadas nas instruções de operação. Se o usuário não possuir as qualificações necessárias.

- 1. Leia estas instruções.
- 2. Guarde estas instruções.
- 3. Preste atenção a todos os cabos.
- 4. Siga todas as instruções.
- 5. Não utilize este dispositivo perto de água.
- 6. Limpe apenas com um pano seco.
- 7. Não cubra os entalhes de ventilação. Instale de acordo com as instruções de fábrica.
- 8. Não instale perto de quaisquer fontes de calor tal como radiadores, fornos de aquecimento, fogões de gás ou outros aparelhos (incluindo aparelhos) que produzam calor.
- 9. Não abuse o objetivo de segurança das fichas polares de tipo de ligação à terra. Não faça polares de tipo de ficha polares em uma outra forma do que a outra. Uma ficha de tipo ligação à terra dispõe

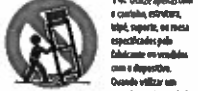
de duas polares e um terceiro de ligação à terra. A polara longa ou o terceiro não é necessário para sua separação. Se a ficha fornecida não estiver na sua tomada, consulte um electricista para a substituição da tomada adequada.

10. Proteja o cabo de alimentação de picar e de aperto, especialmente nas fichas, tomadas, e no local de saída da unidade. Certifique-se de que o cabo elétrico está protegido. Verifique periodicamente as fichas, as tomadas e os pontos em que o cabo sai do aparelho.

11. O aparelho tem de estar sempre conectado à rede elétrica com o condutor de proteção aterrado.

12. Se utilizar uma ficha de mão principal ou uma tomada de aparelho para dissipar o ambiente de funcionamento, esta deve estar sempre acessível.

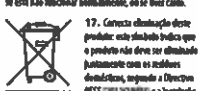
13. Utilize apenas ligarões/acessórios especificados pelo fabricante.



14. Utilize apenas com o suporte, estrutura, base, suporte, ou placa especificadas pelo fabricante em conexão com o dispositivo. Quando utilizar um suporte, tenha cuidado ao mover o conjunto carter/destop para evitar danos pessoais pelo levantamento.

15. Desligue este dispositivo durante os períodos de tempo.

16. Qualquer tipo de reparação deve ser sempre efectuado por pessoal qualificado. É necessária uma reparação sempre que o símbolo tiver sido de alguma forma danificado, como por exemplo: no caso do cabo de alimentação se ficher se encontrarem danificados, na impossibilidade de ligar o tipo de destino ou o objecto temerário para dentro do dispositivo, no caso da unidade ter estado exposta à chuva ou à humidade, se este não funcionar normalmente, ou se ficar solto.



17. Garanta eliminação deste produto: este símbolo indica que o produto não deve ser eliminado juntamente com os resíduos domésticos, segundo a Directiva 2002/96/CE (WEEE) e a legislação nacional. Este produto deverá ser levado para um centro de reciclagem para a reciclagem de resíduos de equipamentos eléctricos e electrónicos (REE). O tratamento incorrecto deste tipo de resíduos pode ter um eventual impacto negativo no ambiente e na saúde humana devido a substâncias potencialmente perigosas que estão gradualmente acumuladas nos REE. Ao mesmo tempo, a sua eliminação para a eliminação correcta deste produto irá contribuir para a utilização eficiente dos recursos naturais. Para mais informação acerca das locais onde poderá obter o seu equipamento usado para reciclagem, é favor contactar os serviços ambientais locais, o centro de gestão de resíduos ou os serviços de recolha de resíduos domésticos.

**LEGAL RENUNCIANTE**

O MUSK Group não se responsabiliza por perda alguma que possa ser sofrida por qualquer pessoa que dependa, seja de maneira completa ou parcial, de qualquer decisão, programa, ou declaração aqui contidas. Todos direitos, registados e outras informações estão sujeitas a modificações sem aviso prévio. Todas as marcas são propriedade de seus respectivos donos. AIDA, ELARK, TEORIE, FERGOSONIA, BROWNGER, BURGIA e ODA são marcas de marcas registadas de MUSK Group IP Ltd. © MUSK Group IP Ltd. 2015 Todos direitos reservados.

**GARANTIA LIMITADA**

Para obter os termos de garantia aplicáveis e condições e instruções adicionais a respeito da garantia limitada de MUSK group, favor verificar detalhes no link através de website [musk-group.com/warranty](http://musk-group.com/warranty)

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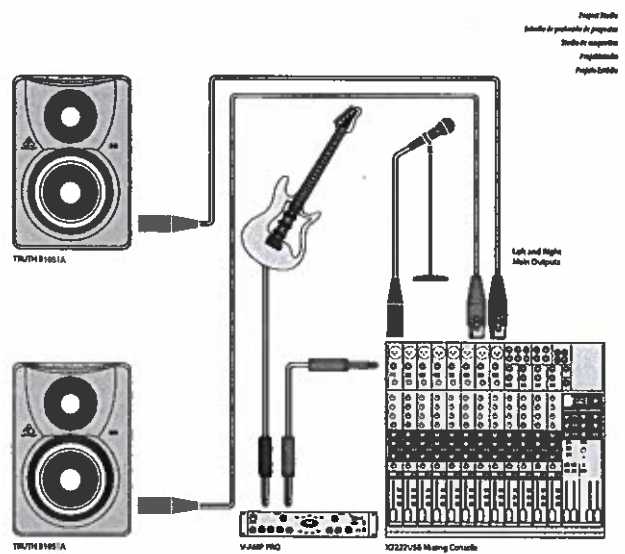
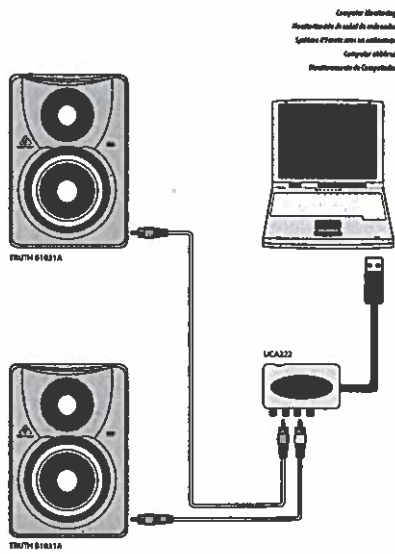


• TRUTH B1031A

• Quick Start Guide

### TRUTH B1031A Hook-up

- ① Step 1: Hook-Up
- ② Paso 1: Conexión
- ③ Etape 1 : Connexions
- ④ Schritt 1: Verkabelung
- ⑤ Passo 1: Conexões



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# TRUTH B1031A Controls

- 10 Step 2: Controls
- 11 Paso 2: Controles
- 12 Etape 2: Réglages
- 13 Schritt 2: Regler
- 14 Passo 2: Controles

**ON LED** — Lights when power is turned on the master and the POWER switch is turned on.

**POWER OFF** — Se ilumina cuando se desconecta el cable de alimentación eléctrica y el interruptor POWER está activado (OFF).

**LED OFF** — S'illumine lorsque l'alimentation est reliée au secteur et que l'interrupteur POWER est sur On.

**ON LED** — Leucht, wenn die Master mit Spannung versorgt wird und das POWER-Schalter die Master an ist.

**POWER OFF** — L'illuminación cuando se desconecta el cable de alimentación eléctrica y el interruptor POWER está activado (OFF).

**LED OFF** — S'illumine lorsque l'alimentation est reliée au secteur et que l'interrupteur POWER est sur On.

**HIGH FREQUENCY** — Adapts the master's frequency response to the damping characteristic of the coil system.

**HIGH FREQUENCY** — Adapta la respuesta de frecuencia del master a las características de amortiguamiento de la bobina de control.

**HIGH FREQUENCY** — Adaptiert die Frequenzgang des Masters an die Dämpfungseigenschaften der Lautsprecherboxen.

**LOW FREQUENCY** — Adapts the master's frequency response to the damping characteristic of the coil system.

**LOW FREQUENCY** — Adapta la respuesta de frecuencia del master a las características de amortiguamiento de la bobina de control.

**LOW FREQUENCY** — Adaptiert die Frequenzgang des Masters an die Dämpfungseigenschaften der Lautsprecherboxen.



**ON LED** — Lights when power is turned on the master and the POWER switch is turned on.

**POWER OFF** — Se ilumina cuando se desconecta el cable de alimentación eléctrica y el interruptor POWER está activado (OFF).

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**INPUT 1** — Plug into an RCA, RCA or 1/4" cable into one of three inputs to connect the audio source.

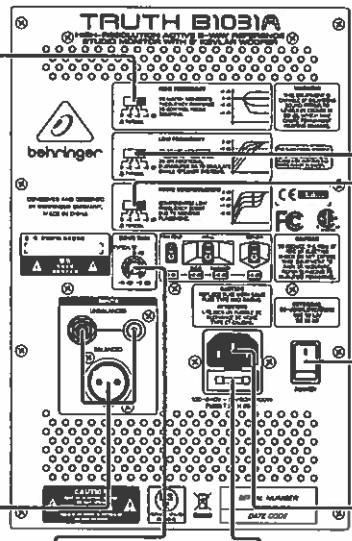
**INPUT 1** — Conecte a uno de tres cables de audio con una toma RCA, RCA o una de 1/4" para la conexión de la fuente de audio.

**INPUT 1** — Verbinden Sie einen Stereo-Eingangs- mit einem 1/4"-Dreh- oder RCA-Kabel, um die Audiquelle anzuschließen.

**INPUT 2** — Plug into an RCA, RCA or 1/4" cable into one of three inputs to connect the audio source.

**INPUT 2** — Conecte a uno de tres cables de audio con una toma RCA, RCA o una de 1/4" para la conexión de la fuente de audio.

**INPUT 2** — Verbinden Sie einen Stereo-Eingangs- mit einem 1/4"-Dreh- oder RCA-Kabel, um die Audiquelle anzuschließen.



**LOW FREQUENCY** — Adapts the master's frequency response to the damping characteristic of the coil system.

**LOW FREQUENCY** — Adapta la respuesta de frecuencia del master a las características de amortiguamiento de la bobina de control.

**LOW FREQUENCY** — Adaptiert die Frequenzgang des Masters an die Dämpfungseigenschaften der Lautsprecherboxen.

**LOW FREQUENCY** — Adapts the master's frequency response to the damping characteristic of the coil system.

**LOW FREQUENCY** — Adapta la respuesta de frecuencia del master a las características de amortiguamiento de la bobina de control.

**LOW FREQUENCY** — Adaptiert die Frequenzgang des Masters an die Dämpfungseigenschaften der Lautsprecherboxen.

**POWER COMPENSATION** — Provides the frequency response to the speaker placement.

**POWER COMPENSATION** — La ofrece en forma de respuesta de ajuste de potencia para compensar el posicionamiento de los altavoces.

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**POWER COMPENSATION** — La ofrece en forma de respuesta de ajuste de potencia para compensar el posicionamiento de los altavoces.

**POWER SOURCE** — Connect the included power cable to the back of the unit.

**POWER SOURCE** — Conecte el cable de alimentación incluido a la parte posterior de la unidad.

**POWER SOURCE** — Verbinden Sie das mitgelieferte Netzkabel mit dem Netzstecker.

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**TRUTH B1031A Getting started**

- ⓐ **Step 3: Getting started**
- ⓐ **Paso 3: Puesta en marcha**
- ⓐ **Etape 3 : Mise en oeuvre**
- ⓐ **Schritt 3: Erste Schritte**
- ⓐ **Passo 3: Primos Passos**

**1** Place the monitor speakers at head level, undisturbed and at equal distance to the left and right of your listening position.

Coloque físicamente los monitores a la altura de su cabeza, de forma que no queden obstruidos por nada y equidistantes de la posición de escucha izquierda y derecha.

Placez les enceintes à niveau de votre tête et à égale distance entre vos oreilles gauche et droite.

Platzieren Sie die Monitore auf Kopfhöhe und in gleicher Abstand zu Ihrer Hörposition. Beseitigen Sie alle Hindernisse im Hörbereich.

Coloque os alto-falantes na altura da cabeça, sem obstrução e à distância equivalente da esquerda e da direita para a sua posição de escuta.



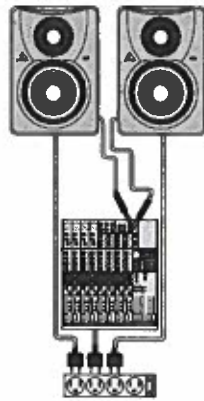
**2** Connect the included power cables to each monitor speaker. Connect the other end to a mains outlet properly configured for your particular model. DO NOT turn the power on yet! If possible, connect both monitor speakers and the mixing console to the same outlet to avoid ground loops.

Conecte los cables de alimentación incluidos a cada uno de los monitores. Conecte el otro extremo de dichos cables a una salida de corriente del voltaje y amperaje adecuados para su modelo concreto. ¡NO encienda todavía los monitores! Si es posible, conecte ambos monitores y la mesa de mezclas a la misma salida de corriente o enchufe para evitar problemas de bucles a tierra.

Connecter les câbles secteur fournis aux deux enceintes. Connectez les fiches secteur aux prises secteur. NE PLACEZ PAS ENCORE LES ENCEINTES SANS TENSION ! Essayez de connecter les deux enceintes et la console de mixage à la même prise secteur pour éviter les boucles de terre.

Schließen Sie die mitgelieferten Netzkabel an die Monitorboxen an. Schließen Sie das andere Kabelende an eine Netzsteckdose an, die für Ihr Modell korrekt konfiguriert ist. Schalten Sie die Boxen NICHT EIN! Schließen Sie beide Monitorboxen und das Mischpult möglichst an die gleiche Netzsteckdose an, um Erdungsschleifen zu vermeiden.

Conecte os cabos de força incluídos para cada alto-falante de retorno. Conecte o outro ponta a uma saída de alimentação principal apropriadamente configurada para o seu modelo particular. NÃO ligue a força enquanto se possível, conecte ambos os alto-falantes de retorno e o console de mixagem à mesma saída para evitar interferência.



**3** Connect the audio source to the inputs of the monitor speakers. If connecting to a mixer, the main XLR outputs from the mixer are preferable. You may also connect the audio outputs from a computer using an interface such as the UCA222.

Conecte las fuentes audio a los entradas de los monitores. Si está usando una mesa de mezclas, lo más recomendable es que utilice las salidas principales XLR del mezclador. También puede conectar las salidas audio de un ordenador por medio de un interface como el UCA222.

Connectez la source audio aux entrées des enceintes. Si vous les connectez à une console de mixage, utilisez de préférence les sorties principales XLR de la console. Vous pouvez également connecter les données aux sorties d'un ordinateur en utilisant une interface audio telle que l'UCA222.

Verbinden Sie die Audioquelle mit den Eingängen der Monitorboxen. Beim Anschluss an einen Mischpult sollten Sie die XLR-Hauptausgänge des Mischers verwenden. Eben über Interface wie das UCA222 können Sie auch die Audioausgänge eines Computers anschließen.

Conecte a fonte de áudio às entradas dos alto-falantes de retorno. Se conectar a uma mesa, as saídas principais XLR do mixer são preferíveis. Você também pode conectar as saídas de áudio de um computador usando uma interface como o UCA222.

Turn on the power to each speaker by flipping the power switch. This is located on the back panel. The ON LED will light up.

Encienda cada uno de los monitores por medio de su interruptor POWER (situado en el panel trasero). El piloto ON se iluminará en cuanto el monitor esté encendido.

Placez les deux enceintes sous tension à l'aide de leurs interrupteurs secteur situés au face arrière. Le Led ON s'allume sur chaque enceinte.

Schalten Sie die Boxen mit ihrem rückseitigen Power-Schalter ein. Die ON LED leuchtet.

Ligue a força para cada alto-falante ligando o interruptor de força. Este está localizado no painel traseiro. A lâmpada ON acenderá.



**4** Turn on your mixer, computer, or other audio source.

Encienda la mesa de mezclas, ordenador o la fuente audio que tenga conectada.

Placez la console de mixage sous tension, l'ordinateur ou une autre source audio en premier.

Schalten Sie Ihren Mischler, Ihren Computer oder Ihre andere Audioquelle ein.

Ligue sua mesa, computador, ou outra fonte de áudio.

Turn on the power to each speaker by flipping the power switch. This is located on the back panel. The ON LED will light up.

Encienda cada uno de los monitores por medio de su interruptor POWER (situado en el panel trasero). El piloto ON se iluminará en cuanto el monitor esté encendido.

Placez les deux enceintes sous tension à l'aide de leurs interrupteurs secteur situés au face arrière. Le Led ON s'allume sur chaque enceinte.

Schalten Sie die Boxen mit ihrem rückseitigen Power-Schalter ein. Die ON LED leuchtet.

Ligue a força para cada alto-falante ligando o interruptor de força. Este está localizado no painel traseiro. A lâmpada ON acenderá.



**6** Adjust the INPUT TRIM knob on the back of each monitor to the center (0 dB) position.

Ajuste el mando INPUT TRIM del panel trasero de cada monitor a su posición central (0 dB).

Régler le bouton INPUT TRIM à l'arrière de chaque enceinte en position centrale (0 dB).

Drehen Sie den rückseitigen INPUT TRIM Regler des Monitors auf die Mittelposition (0 dB).

Ajuste o botão INPUT TRIM na parte de trás de cada retorno para a posição central (0 dB).



**7** Start playing your audio source and slowly increase the volume until you reach a comfortable listening level.

Comience la reproducción de su fuente audio y vaya subiendo lentamente el volumen hasta que llegue a un nivel de escucha que le resulte cómodo.

Activez la source audio et montez progressivement le volume jusqu'à obtenir un niveau d'écoute confortable.

Spielen Sie Ihre Audioquelle ab und drehen Sie den Pegelregler langsam auf, bis eine angenehme Abhörlautstärke erreicht ist.

Conecte a tocar sua fonte de áudio e vá aumentando o volume vagarosamente até que você alcance um nível confortável de escuta.

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**EN Specifications**

<b>Audio Input</b>	
<b>RLC microphone</b>	balanced input
<b>1/8" TRS</b>	balanced input
<b>6.35</b>	unbalanced input
<b>Input Impedance</b>	10 kΩ
<b>Input Term</b>	-4 dB to +6 dB
<b>Max. Input Level</b>	+20 dBu
<b>Transformer</b>	
<b>High-Frequency driver</b>	Vibro-high resolution 1" dome tweeter
<b>Low-Frequency driver</b>	8" woofer
<b>Amplifier Output Power</b>	
<b>Low-Frequency driver</b>	
<b>RMS @ 0.1% THD (one voice)</b>	70 W @ 4 Ω
<b>Peak power</b>	100 W @ 4 Ω
<b>High-Frequency driver</b>	
<b>RMS @ 0.1% THD (one voice)</b>	33 W @ 4 Ω
<b>Peak power</b>	50 W @ 4 Ω
<b>Crossover</b>	
<b>Type</b>	Active
<b>Crossover frequency</b>	2.5 kHz
<b>System Specifications</b>	
<b>Frequency Response</b>	[-3 dB] 20 Hz to 20 kHz
<b>Signal processing level</b>	100% 115 dB SPL @ 1 m @ 90°
<b>Frequency 1 and 2 (Hz)</b>	
<b>Low frequency</b>	0 dB @ 60 Hz -2 dB @ 60 Hz -4 dB @ 60 Hz -4 dB @ 60 Hz
<b>Room compensation</b>	0 dB @ 300 Hz -2 dB @ 300 Hz -4 dB @ 300 Hz -4 dB @ 300 Hz
<b>High Frequency</b>	+2 dB @ 8 kHz 0 dB @ 8 kHz -2 dB @ 8 kHz -4 dB @ 8 kHz
<b>Power Supply</b>	
<b>Power</b>	100 - 240 V~, 50/60 Hz (1.2 A @ 250 V)
<b>Power consumption</b>	200 W
<b>Make connection</b>	Standard IEC connector
<b>Dimensions</b>	
<b>Dimensions (H x W x D)</b>	391 x 261 x 245 mm (15.4 x 10.3 x 9.7")
<b>Weight</b>	11.3 kg (25 lb)

**Other important information**

**EN Important Information**

1. Register your warranty. Please register your new MUSEX Group equipment right after you purchase it by visiting [behringer.com](http://behringer.com). Registering your purchase using our simple online form helps us to process your repair claims more quickly and efficiently. Also, read the terms and conditions of our warranty, if applicable.
2. If all functions should your MUSEX Group Authorized Reseller not be located in your vicinity, you may contact the MUSEX Group Authorized Reseller for your country listed under "Support" at [behringer.com](http://behringer.com). Should your country not be listed, please check if your problem can be dealt with by our "Online Support" which may also be found under "Support" at [behringer.com](http://behringer.com). Alternatively, please refer to our warranty claim at [behringer.com](http://behringer.com) BEFORE returning the product.
3. Proper Connections. Before plugging the unit into a power socket, please make sure you are using the correct mains voltage for your particular model. Only use cables that are marked with their voltage and rating without exception.

**FR Informations Importantes**

1. Enregistrer votre garantie. Dès que vous avez acheté votre équipement MUSEX Group, veuillez vous inscrire sur le site [behringer.com](http://behringer.com). Le fait d'enregistrer le produit en ligne nous permet de gérer les réparations plus rapidement et plus efficacement. Veuillez également lire les termes et conditions de notre garantie.
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3. Ligação elétrica. Antes de ligar o unidade à tomada, assegure-se de que está a utilizar a voltagem correta para o modelo em questão. Os dados de tensão devem ser verificados, sem qualquer exceção, nos dados de tensão tipo e conexão nominal.

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2. Atención. En el caso de que no exista un distribuidor MUSEX Group en las inmediaciones, puede ponerse en contacto con el distribuidor MUSEX Group de su país, que encontrará dentro del apartado "Support" de nuestro página web [behringer.com](http://behringer.com). En caso de que no haya un aparato en ese listado, acceda a la sección "Online Support" (que también encontrará dentro del apartado "Support" de nuestra página web) y compruebe si su problema puede ser resuelto satisfactoriamente a través de nuestra "ayuda en línea". Además, envíe su solicitud online de soporte en poder de garantía ANTES de devolvernos el aparato.
3. Conexiones de corriente. Antes de enchufar este aparato a una salida de corriente, asegúrese de que ésta cubra una del voltaje adecuado para su modelo concreto. En caso de que deba recurrir a la ayuda gratuita, deberá hacerlo por vía de Internet previamente, sin excepción.

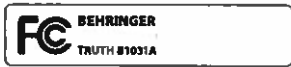
**DE Wichtige Informationen**

1. Dringlich registrieren. Bitte registrieren Sie Ihr neues MUSEX Group-Gerät direkt nach dem Kauf auf der Website [behringer.com](http://behringer.com). Wenn Sie Ihren Kauf mit unserem einfachen online Formular registrieren, können wir Ihre Reparaturanfragen schneller und effizienter bearbeiten. Lesen Sie bitte auch unsere Garantiebedingungen, falls relevant.
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3. Stromanschluss. Bevor Sie das Gerät an eine Steckdose anschließen, prüfen Sie bitte, ob Sie die korrekte Netzspannung für Ihr spezifisches Modell verwenden. Bitte prüfen Sie sorgfältig die technischen Daten des Gehäuses des gleichen Typs und Modells vor dem Verketten.



*[Handwritten mark]*

**FEDERAL COMMUNICATIONS  
COMMISSION COMPLIANCE  
INFORMATION**



Responsible Party Name: **MUSIC Group Services NV Inc.**  
Address: **5270 Procyon Street  
Las Vegas, NV 89116  
USA**  
Phone Number: **+1 702 800 8290**

**TRUTH B1031A**

complies with the FCC rules as mentioned in the following paragraph:

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

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

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

**Important Information:**

Changes or modifications to the equipment not expressly approved by MUSIC Group can void the user's authority to use the equipment.

EN

ES

FR

DE

PT





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# KRAMER

## VM-4HC

1:4 HDMI Distribution Amplifier



The **VM-4HC** is a distribution amplifier for HDMI signals. It reclocks and equalizes the signal and distributes it to four identical outputs.

### FEATURES

- Max. Data Rate - 6.75Gbps (2.25Gbps per graphic channel).
- HDTV Compatible.
- HDCP Compliant.
- Kramer Equalization & re-Klocking™ Technology - Rebuilds the digital signal to travel longer distances.
- I-EDIDPro™ Kramer Intelligent EDID Processing™ - Intelligent EDID handling & processing algorithm ensures Plug and Play operation for HDMI systems.
- EDID Acquisition - Default, single output or all connected outputs (auto-mix).
- HDMI Support - Deep Color, x.v.Color™, up to 7.1 Uncompressed Audio Channels.
- 3D Pass Thru.
- Active Input & Output LED Indicators.

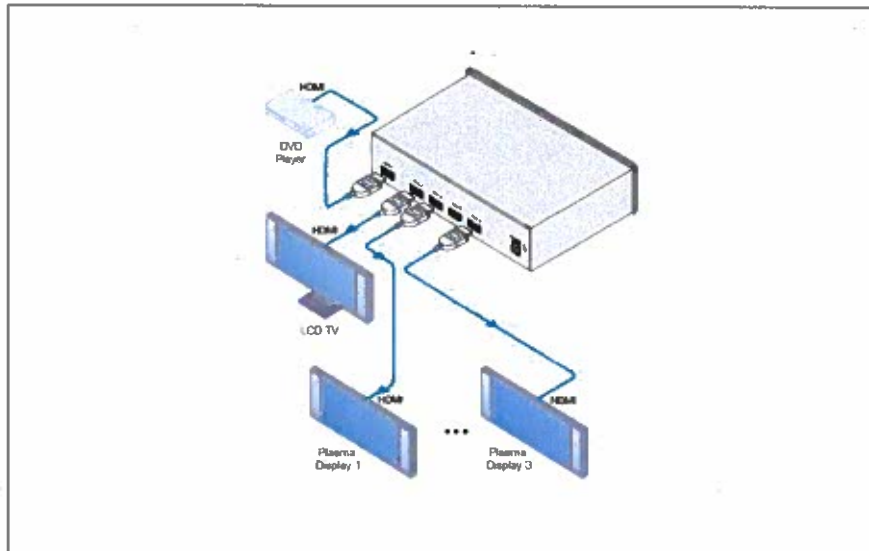




## VM-4HC

## TECHNICAL SPECIFICATIONS

INPUT:	1 HDMI connector.
OUTPUTS:	4 HDMI connectors.
MAX. DATA RATE:	6.75Gbps (2.25Gbps per graphic channel).
COMPLIANCE WITH HDMI STANDARD:	HDMI and HDCP.
CONTROLS:	SELECT and READ buttons for selecting and storing EDID information:
INDICATOR LEDES:	OUTPUTS 1 to 4 and power LEDs.
POWER CONSUMPTION:	5V DC, 1.1A.
INCLUDED ACCESSORIES:	Power supply.
OPTIONS:	RK-1 19" rack adapter.
PRODUCT DIMENSIONS:	21.46cm x 16.30cm x 4.36cm (8.45" x 6.42" x 1.72" ) W, D, H
PRODUCT WEIGHT:	0.6kg (1.4lbs) approx.
SHIPPING DIMENSIONS:	35.10cm x 21.20cm x 7.20cm (13.82" x 8.35" x 2.83" ) W, D, H
SHIPPING WEIGHT:	1.2kg (2.6lbs) approx.





# 50m HDMI Extender over Single Cat5e/6 with 3D Support

## User Manual



P/N: HDExt

G4-0032A



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Thank you for purchasing from gofanco. Our products aim to meet all your connectivity needs wherever you go. For optimum performance and safety, please read the instructions carefully and keep this User's Guide for future reference. If you need more information about our products, please visit [www.gofanco.com](http://www.gofanco.com). For technical support, please email us at [support@gofanco.com](mailto:support@gofanco.com). For drivers/manuals download, please go to <http://www.gofanco.com/download>.

## IMPORTANT SAFETY NOTICES

Please read safety instructions carefully before installation and operation.

- Please pay close attention to all warnings and hints for this device
- Do not expose this unit to rain, heavy moisture, or liquid
- Do not put any items into the device or attempt to modify its operation
- Do not repair the device or open the enclosure without professional guidance to avoid electric shocks. Doing so may void your warranty
- Keep the product well-ventilated to avoid damage from overheating
- Shut off power and make sure environment is safe before installation
- Do not insert or remove the HDMI cables when the device is in use to avoid cable damage. Make sure they are plugged into the correct ports.
- Use the included power adapters only. Make sure the specifications match if using 3rd-party DC power adapters



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## INTRODUCTION

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The HDMI CAT5e/6 Extender – 50m with 3D Support extends high definition 1080p HDMI signals from a source device to a display device up to 50 meters using an economical CAT5e/6 cable.

## FEATURES

- Transmits HDMI signals from source device to display device up to 50 meters using economical CAT5e/6 cabling
- Supports Deep Color up to 24 bits
- 3D video support
- Supports lossless compressed digital audio: Dolby TrueHD™, DTS-HD Master Audio™
- Easy installation and configuration with the EDID copy function



## PACKAGE CONTENTS

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The following items are necessary for the correct setup, use, and maintenance of your HDMI extender:

- HDMI Transmitter (1 piece)
- HDMI Receiver (1 piece)
- Power adapters (2 pieces)
- User's Manual (1 piece, this document)
- Mounting ears (4) & screws (8)

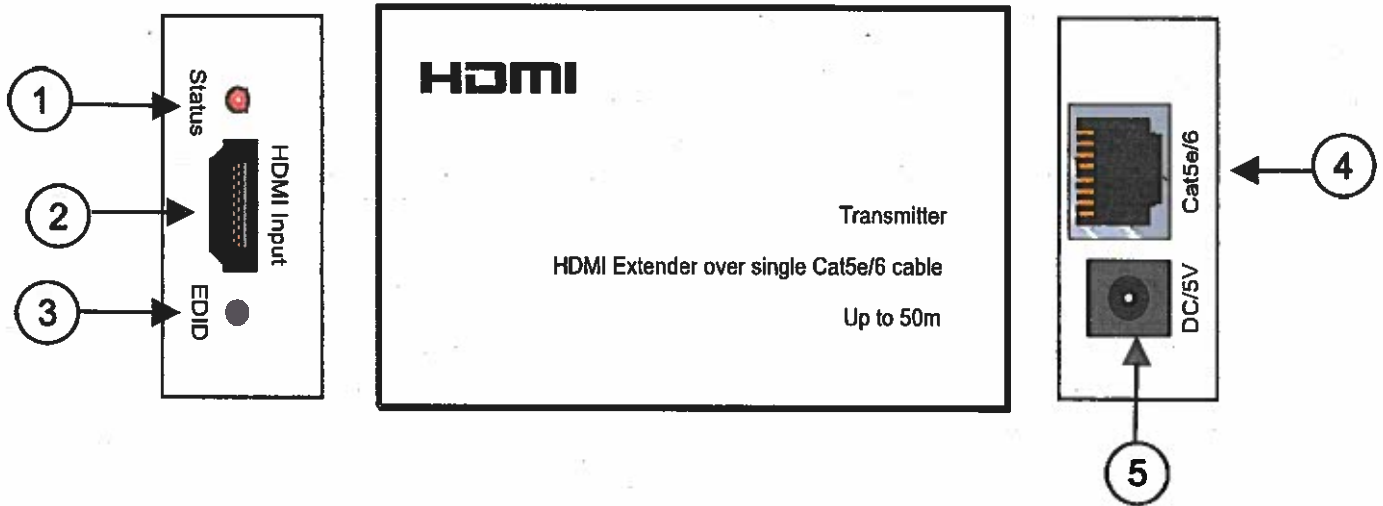
If any of these items is missing, please contact either **gofanco** or your vendor.

## INSTALLATION REQUIREMENTS

- 1) HDMI source device (computer, DVD player, game console, etc. . .)
- 2) HDMI display device (SDTV/Monitor, HDTV/Monitor, projector, etc. . .)
- 3) CAT5e/6 cable terminated at both ends with an RJ45 connector



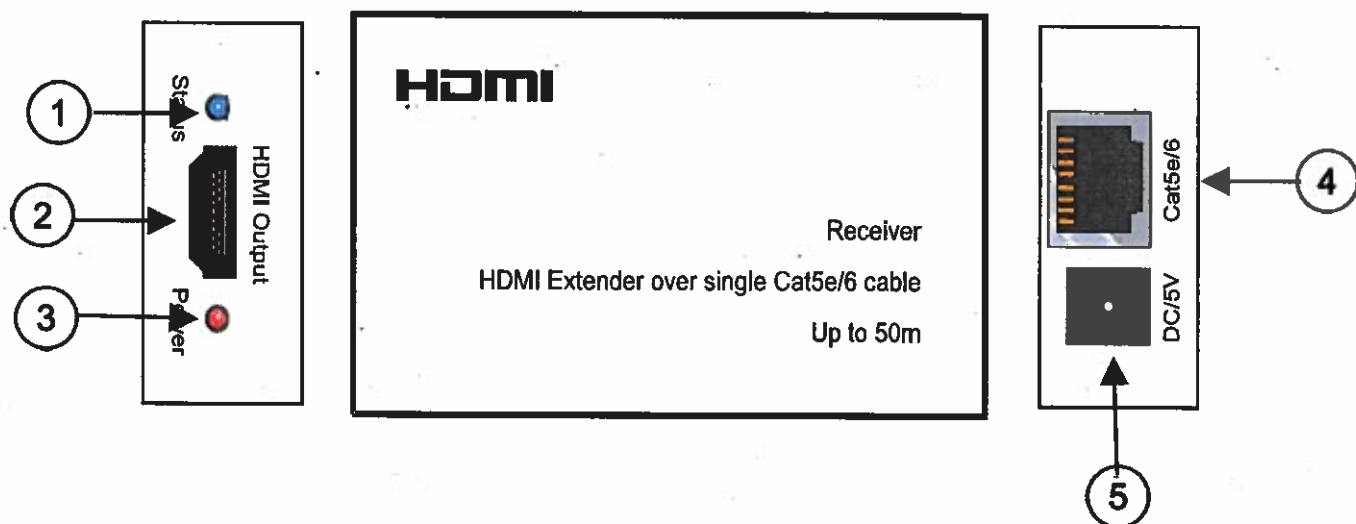
Transmitter Unit



- 1) **Status LED:** Indicates the state of the signal connection
- 2) **HDMI input port:** Receives the HDMI signal to be transmitted
- 3) **EDID copy button:** Retrieves the EDID information from the display
- 4) **CAT-5e/6 output:** Connect one end of the Cat5e/6 cable to this port
- 5) **Power input:** This is where the transmitter receives power from the 5V DC power supply



## Receiver Unit



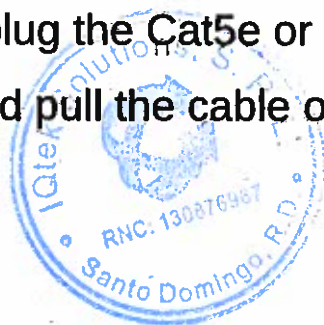
- 1) **Status LED:** This LED lights when the receiver is connected to the transmitter via the Cat5e/6 cable
- 2) **HDMI output port:** Recreates the original HDMI signal
- 3) **Power LED:** Indicates whether the receiver is powered on
- 4) **CAT-5E/6 input:** Connect one end of the Cat5e/6 cable to this port
- 5) **Power input:** This is where the receiver is supplied power from the 5V DC power supply



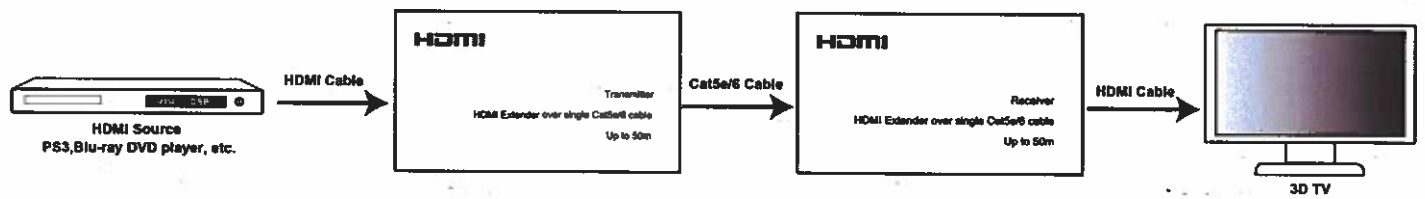


- 1) Power off all devices including your HDMI source and HDMI display.
- 2) Connect your HDMI source device to the Transmitter's HDMI Input connector with an HDMI cable (HDMI cable not included).
- 3) Plug your CAT5e/6 cable between the Transmitter's RJ45 Output and the Receiver's RJ45 Input.
- 4) Connect your HDMI display to the Receiver's HDMI output connector with an HDMI cable (HDMI cable not included).
- 5) Plug the included power adapters into the Transmitter's and Receiver's power jacks (labeled "DC/5V"), then plug both power adapters into a reliable electrical socket.
- 6) Power on the HDMI source and display devices.
- 7) The HDMI extender is ready for use.

**ATTENTION:** Insert and remove cables gently. When inserting the Cat5e or Cat6 cable, stop inserting when you hear the "click" sound. To unplug the Cat5e or Cat6 cable, press down on the locking tab and pull the cable out.



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**\*Note:** If the sink (e.g. HD TV) can't display any signal, try this. Connect the TV/display directly to the Transmitter's HDMI Input, plug in the Transmitter's power adapter, then press the transmitter's "EDID" button. The "Status" light will then flash, which indicates that the EDID data has been copied from the display device successfully. Holding down the "EDID" button for 3 seconds will reset the EDID on the transmitter back to its default.



## SPECIFICATIONS

Operating Temperature Range	-5°C to +35°C (+23°F to +95°F)
Operating Humidity Range	5 to 90%RH (Non-Condensing)
Input Video Signal	0.5-1.0 Volts P-P
Input DDC Signal	5 volts p-p(TTL)
Support Video Formats	576i, 480P, 576P, 720P, 1080i, 1080P 3D video®
Video Output	HDMI
Support Audio Format	DTS-HD™ Master Audio, Dolby TrueHD™
Transmission Distance	50m (Maximum) for 1080P over a single Cat5e or Cat6 cable with solid 24AWG wire
Power consumption	5 watts (Maximum)
Dimension (L×W×H)	Both the Transmitter and Receiver are 83x48x25mm
Net Weight	250g (Pair)

① Sink must support 3D video when the source is a 3D device



## Disclaimer

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The product name and brand name may be registered trademarks of related manufacturers. TM and ® may be omitted on the user's guide. The pictures on the user's guide are just for reference, and there may be some slight differences with the actual products.

We reserve the right to make changes without prior notice to a product or system described herein to improve reliability, function, or design.



**gofanco**<sup>®</sup>

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## USB 3.1 (10Gbps) Dual-Bay Dock for 2.5"/3.5" SATA SSD/HDDs

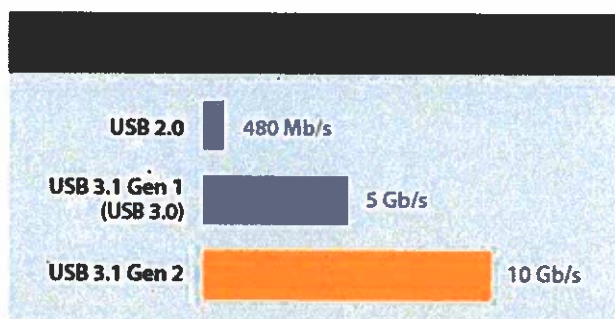
Product ID: SDOCK2U313



Get unprecedented performance and storage capacity with this USB 3.1 Gen 2 (10 Gbps) dual-drive docking station. It supports both 2.5" and 3.5" form factor solid-state and hard drives, with a high capacity storage capability of 12TB (6TB per drive).

### Harness the speed of USB 3.1 Gen 2

USB 3.1 Gen 2 gives you greater bandwidth and speed with file transfer rates of up to 10 Gbps - twice the speed of USB 3.0 (USB 3.1 Gen 1) technology. It lets you leverage the high performance of the latest SSDs and hard drives, while alleviating bottlenecks in your data transfers.



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**Data Sheet****Top-loading design for easy drive access**

It's never been easier to dock and swap drives from your desktop computer or laptop. Simply insert your drives into the top loading slot, with no tools or trays required. The HDD ejection button allows fast and simple drive removal.

**Convenient compatibility**

The dual-drive docking station comes with a USB Type-A to B cable, providing backward compatibility with your existing USB 3.0, 2.0 and 1.x devices. It also supports UASP for enhanced performance.

Extend the value of this hard drive docking station further with the addition of our [SATA to IDE Hard Drive Adapter](#) (SAT2IDEADP), allowing easy insertion of any 2.5" or 3.5" IDE hard drive into a SATA hard drive dock.

The SDOCK2U313 is backed by a StarTech.com 2-year warranty and free lifetime technical support.



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**1 800 265 1844**

### Certifications, Reports and Compatibility



### Applications

- Perfect for system builders and IT professionals who need quick access to drives for imaging
- Back up data quickly to an external drive for archiving
- Transfer data from one hard drive to another
- Convenient for technicians who test or benchmark multiple hard drives
- Easily take backup data to an offsite location for safekeeping

### Features

- Access data from two 2.5/3.5" SATA SSD/HDDs over ultra-fast USB 3.1 Gen 2
- Support for SATA I, II and III (up to 6 Gbps)
- USB Type A interface for backward compatibility with USB 3.0, 2.0 and 1.x
- Dual bay, top-loading design with built-in ejection button for easy drive access
- UASP support for enhanced performance
- Supports large drive capacity of 12TB (6TB per bay)





<b>Hardware</b>	Warranty	2 Years
	Bus Type	USB 3.1 Gen 2
	Chipset ID	ASMedia - ASM1352R
	Compatible Drive Types	SATA
	Drive Installation	Removable
	Drive Size	2.5In & 3.5In
	Fan(s)	No
	Interface	USB 3.1 Gen 2
	Number of 2.5 inch bays	2
	Number of Drives	2
Number of Internal 3.5 inch bays	2	
<b>Performance</b>	4Kn Support	Yes
	Max Drive Capacity	Currently tested with hard drives up to 6TB at 7200 RPM
	Maximum Data Transfer Rate	10 Gbps
	TRIM Support	Yes
	Type and Rate	USB 3.1 Gen 2 - 10 Gbit/s SATA III (6 Gbps)
	UASP Support	Yes
<b>Connector(s)</b>	Drive Connectors	2 - SATA Data & Power Combo (7+15 pin) Receptacle
	Host Connectors	1 - USB 3.1 USB Type-B (9 pin, Gen 2, 10 Gbps) Female
<b>Software</b>	OS Compatibility	OS independent; No software or drivers required
<b>Special Notes / Requirements</b>	<b>Note</b>	Windows 7 and earlier Windows versions do not support TRIM with USB to SATA devices.
<b>Indicators</b>	LED Indicators	1 - Power 2 - HDD Activity
<b>Power</b>	Center Tip Polarity	Positive
	Input Current	1.3A
	Input Voltage	100 - 240 AC
	Output Current	3000 mA
	Output Voltage	12 DC
	Plug Type	M
	Power Consumption (In Watts)	36



	Power Source	AC Adapter Included
<b>Environmental</b>	Humidity	20% ~ 80% RH
	Operating Temperature	5°C to 35°C (35°F to 95°F)
	Storage Temperature	-20°C to 50°C (-4°F to 122°F)
<b>Physical Characteristics</b>	Color	Black
	Enclosure Type	Plastic
	Product Height	2.8 in [7 cm]
	Product Length	5.2 in [13.2 cm]
	Product Width	5.8 in [14.8 cm]
	Weight of Product	17.7 oz [502 g]
<b>Packaging Information</b>	Package Height	4.7 in [12 cm]
	Package Length	8.3 in [21 cm]
	Package Width	7.5 in [19 cm]
	Shipping (Package) Weight	34.6 oz [980 g]
<b>What's in the Box</b>	Included in Package	1 - USB 3.1 Dual-drive HDD Dock
		1 - USB 3.1 A-to-B Cable - 41 inches
		1 - Universal Power Adapter - 49.5 inches (cable)
		4 - Power Adapter Plugs (NA/EU/UK/AUS)
		1 - Quick Install Guide

Product appearance and specifications are subject to change without notice.



**70m 8x8 HDBaseT Matrix**  
**Support POC, IP Control, RS232 Control**  
**Operating Instruction**



Thank you for purchasing this product. For optimum performance and safety, please read these instructions carefully before connecting, operating or adjusting this product. Please keep this manual for future reference.

### **SURGE PROTECTION DEVICE RECOMMENDED**

This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shock, lightning strikes, etc. Use of surge protection systems is highly recommended in order to protect and extend the life of your equipment.



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**Dear Customer**

Thank you for purchasing this product. For optimum performance and safety, please read these instructions carefully before connecting, operating or adjusting this product. Please keep this manual for future reference.

**1. Features**

- Incorporate HDBaseT technology
- Any one of the 8 HDMI Sources to any one of the 8 HDMI Displays
- Each of the 8 outputs includes one HDMI output and one UTP output simultaneously
- HDMI 1.4 version (Support HDMI1.4 4K@60Hz YUV4:2:0).
- Transmit up to 70m under 1080p,40m under 4K@60Hz.
- HDCP 2.2/1.4 compliant.
- With wide-band Bi-Direction IR routed control(38~56KHz)
- Support RS232 pass through
- Support 8x Analog Audio and 8x SPDIF Audio embedded, Support 8x Analog Audio and 8x SPDIF Audio extraction.
- Support Panel Button, IR Routing, RS232 Control, IP Control
- Support POC (Receiver powered by HDBaseT Matrix).
- 2U rack design with mounting ears

**2. Package Contents**

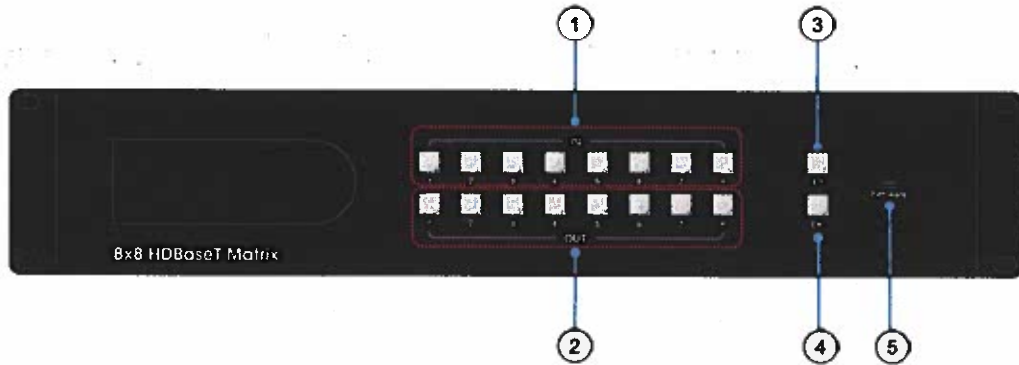
- 1). 1x Main Unit (HDBaseT Matrix)
- 2). 1x Power Cable (AC100-240V)
- 3). 1x Remote control
- 4). 1xIR Extension cable, 10x Wide-Band "IR in " Cables, 9x "IR out" Cables
- 5). 1x mounting kit
- 6). 1x CD for control software & user manual

**3. Specifications**

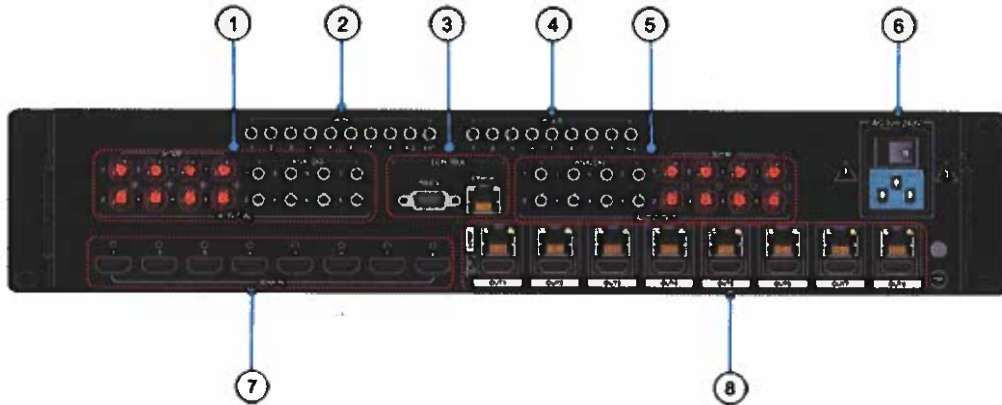
Operating Temperature Range	-5 to +40°C(23 to +104 °F)
Storage Temperature Range	-10 to +60°C(-14 to +140 °F)
Operating Humidity Range	5 to 90 % RH (no condensation)
Input Video Signal	0.5-1.0 volts p-p
Input DDC Signal	5 volts p-p (TTL)
Signaling Rate	10.2Gbit/s
Video Format Supported	4K@60Hz, YUV420 4k@30Hz/1080P/1080i/720P/576P/480P/576i/480i
HDCP Compliant	HDCP2.2 and HDCP1.4
Output Video	HDMI2.0 and HDMI 1.4 (over HDBaseT)
Audio Format Supported	PCM, Dolby5.1/7.1, DTS5.1/7.1 digital audio
Maximum Transmission Distance	1080P 70m, 4K 40m
Power Consumption	48watts (Max.)
Dimensions	L482.6 x W397.2 x H88 mm
Mass (Main Unit)	7.5KG



4. Panel Descriptions



- ① Input button IN1~8: choose the desired input port from ports 1~8 in video mode.
- ② Output button OUT1~8: choose the desired output port from ports 1~8 in video mode.
- ③ F1 button: Function button (please refer to 4.1).
- ④ OK button: Confirm or Clear
- ⑤ USB Port for Firmware upgrade.



- ① Audio IN port (SPDIF & ANALOG)
- ② IR IN port.
- ③ RS232 & Ethernet for control.
- ④ IR OUT port.
- ⑤ Audio OUT port (SPDIF & ANALOG)
- ⑥ Power ON/OFF
- ⑦ HDMI Input ports (1~8).
- ⑧ HDMI/HDBT Output ports (1~8).



#### 4.1 Input / output channel key operation

Channel	Button method
Any Key	The first operation of the button can wake up the screen
Input8	In EDID mode, long press means select all the channels
Output8	In Video mode, long press means select all the output channels
F1	Long press: enter the function selection mode short press: check the status of mode
OK	Short press: confirm Long press: clear the number selection key
F1+OK	Lock the panel operation , press again to unlock

#### 4.2 Video switching operation

Specific operations are as follows

① Long press the F1 key and select input 1 (video switch), press the "OK" key, enter the video switching mode



Video switching mode (picture 1)

② Switch the input to the output

Operation format: "input channel" + "output channel" + "OK"

#### 4.3 COPY EDID of HDMI Display

Specific operations are as follows

① Long press the F1 key, select input 2 (HDMI EDID copy), press the "OK" key, enter the copy EDID mode.

② Select the corresponding output EDID and copy to the input, the selected channel will automatically read EDID of the HDMI Display (such as TV).



HDMI EDID copy mode (picture 2)





③ Copy output EDID to the input

Operation format: "input channel" + "output channel" + "OK".

**4.4 COPY EDID of HDBaseT output**

**Specific operations are as follows**

① Long press the F1 key, select input 3 (HDBT EDID copy), press the "OK" key, enter the copy EDID mode.

② Select the corresponding output EDID copy to the input, the selected channel will automatically read EDID of the HDMI Display (such as TV).



HDBT EDID replication mode (picture 3)

③ Copy output EDID to the input

Operation format: "input channel" + "output channel" + "OK"

**4.5 Inlay(built-in) A selection**

**The built-in EDID A**

The built-in EDID A includes 8 options as follows:

INLAY A	OUT1	4K60-420-2D-2.0(Default EDID)
	OUT2	4K60-420-2D-5.1
	OUT3	4K60-420-2D-7.1
	OUT4	4K60-2D-420
	OUT5	4k30-2D-2.0
	OUT6	4k30-2D-5.1
	OUT7	4k30-2D-7.1
	OUT8	LENOVO 4K30

**Specific operations are as follows**

① Long press the F1 key, select input 4 (Inlay A), press the "OK" key, enter the built-in EDID mode



Built in EDID mode (picture 4)



② Select built-in EDID to the input

Operation format: "input channel" + "output channel" + "OK".

#### 4.6 Inlay(built-in) B selection

The built-in EDID B includes 8 options as follows:

INLAY B	OUT1	1080P-2D-2.0
	OUT2	1080P-2D-5.1
	OUT3	1080P-2D-7.1
	OUT4	1080P-3D-2.0
	OUT5	1080P-3D-5.1
	OUT6	1080P-3D-7.1
	OUT7	1080P-2D-LPCM2.0
	OUT8	720P-2D-2.0

The specific operation is as follows:

① Long press the F1 key, select input 5 (Inlay B), press the "OK" key, enter the built-in EDID mode



Built in EDID mode (picture5)

② Select built-in EDID to the input

Operation format: "input channel" + "output channel" + "OK"

#### 4.7 Baud Rate Settings

Baud rate setting includes following eight options:

Corresponding output port	Baud rate parameter
OUT-1	115200 ( Default )
OUT-2	2400
OUT-3	4800
OUT-4	9600
OUT-5	19200
OUT-6	38400
OUT-7	57600
OUT-8	115200

**Specific operations are as follows**

- ① Long press the F1 key, select input 6 (baud rate settings), press the "OK" key, enter the baud rate setting mode.



Baud rate setting (picture 6)

- ② Select baud rate to the corresponding output channel and press "OK" to confirm.

**4.8 Timing shutdown Function**

Timing shutdown setting includes eight options as follows:

Corresponding output port	Shutdown time (hours / min)
OUT-1	NONE
OUT-2	00H05M
OUT-3	00H10M
OUT-4	00H30M
OUT-5	01H00M
OUT-6	03H00M
OUT-7	12H00M
OUT-8	24H00M

**Specific operations are as follows**

- ① Long press the F1 key, select input 7 (timing shutdown settings), press the "OK" button, enter the timing shutdown mode



Timing shutdown settings (picture 7)

- ② Select the shutdown time to the corresponding output channel, and press "OK" to confirm.



**4.9 System Settings**

System setting includes two options as follows:

Corresponding outlet	Setting details
OUT-1	Reboot
OUT-2	Factory reset

The specific operations are as follows:

- ① Long press button "F1 "and select input 8 (system Settings) ,press "OK" ,enter the system settings mode .



System Settings (picture 8)

- ② Press Output from 1-2, select set reboot or factory reset for the corresponding output channel, press "OK" to confirm.

**4.10 Check information for Output**

Long press button "F1 "to check information for the output .(such as video switch/EDID)



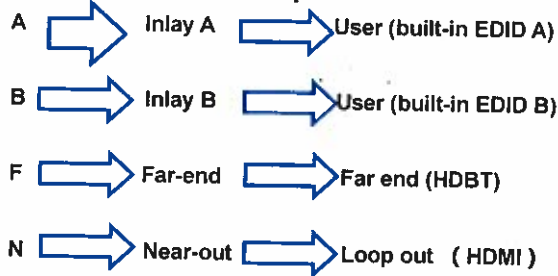
Check Output channel (picture 9)



Check EDID channel (picture 10)



*(Handwritten mark)*

**EDID channel nouns explanation :****The specific operations are as follows:**

- ① In video switch mode, input/output EDID mode , short press "F1 " to check the current output status.
- ② After the checking, press the button "OK" to exit the mode.

**4.11 Boot/Standby interface**

The key time interval is no more than 60 seconds. If over 60 seconds, the LCD screen will automatically enter the backlight mode and return to the video channel main interface.(the default time is 60 /LCD backlight brightness is100, this can be set by the commands)



Boot/standby main interface (picture 11)

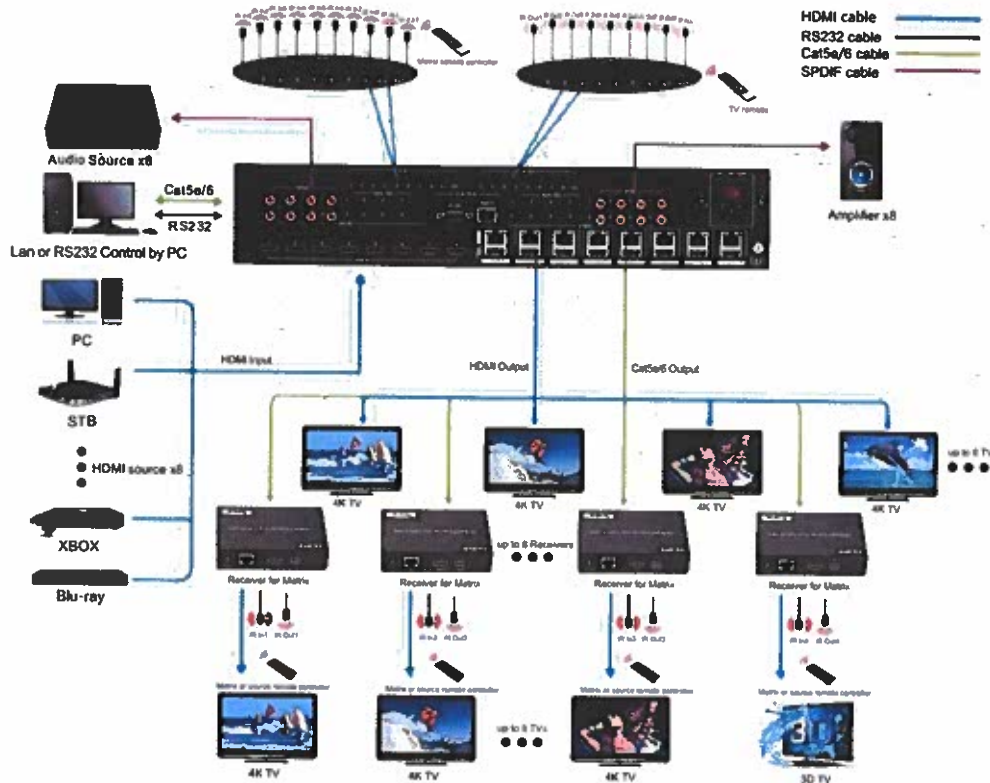
**5. Connecting and Operating**

- 1). Connect the HDMI input sources (such as HD-DVD, PS3, STB etc) into HDBaseT Matrix.
- 2). Connect Cat5e/6 cable to HDBaseT output port of HDBaseT Matrix and HDBaseT input of Receiver.
- 3). Connect HDMI sink devices (such as HD-LCD, HD-DLP) to the Receiver.
- 4). Power on the input source you want to show.
- 5). Connect the power cable into HDBaseT Matrix and turn on the display you want to watch.
- 6). Use remote or push the button to choose input source.

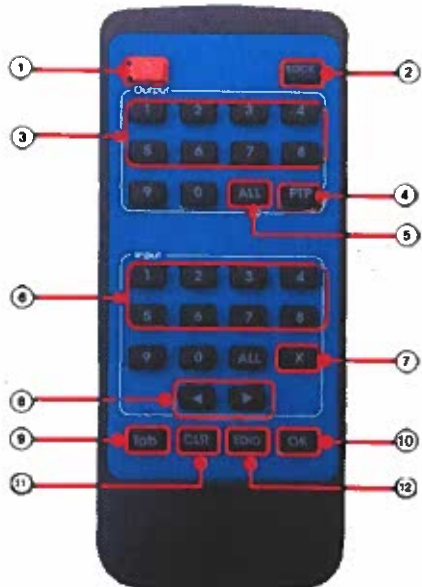
**\*Note: Do not dispart the machine when power on because there is 220V AC power inside the machine!**



6. Application Diagram



7. Remote Control Description



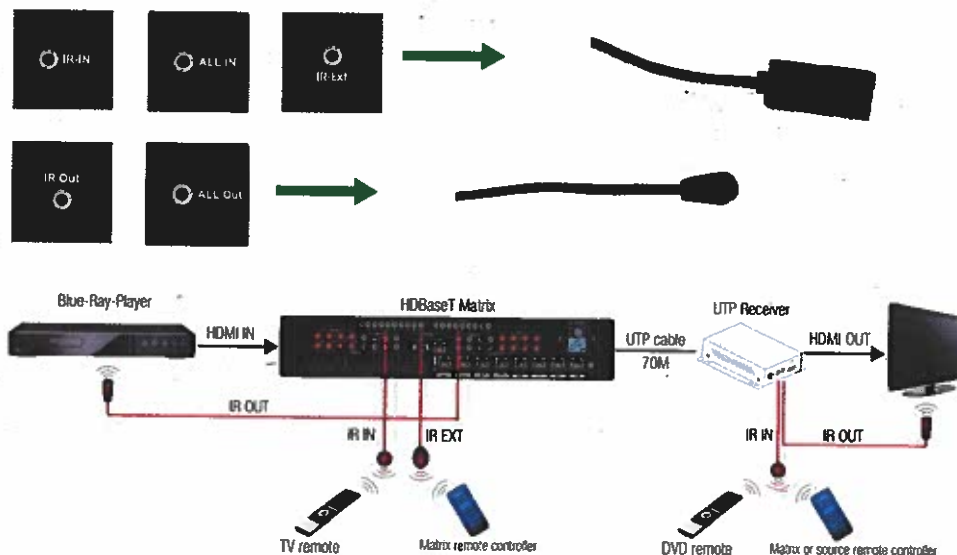
- ① Standby Mode.
- ② Lock or Unlock the Panel Button.
- ③ Choose output from 1-8.
- ④ PTP button: Mirror all inputs and outputs (Ex. Input 1 to output 1, input 2 to output 2, etc)
- ⑤ Choose all the outputs.
- ⑥ Choose input from 1-8.
- ⑦ X: Close input port which you select
- ⑧ Left arrow button to backward the input port, right arrow to forward input port.
- ⑨ Long Press "F1".
- ⑩ Long press "OK".
- ⑪ Short Press "F1".
- ⑫ Short Press "OK".

Note: ⑧ ⑨ ⑩ ⑫ please refer to 4.1.



## 8. IR system

The matrix can pass the IR signal through the IR system to the HDMI source or pass the IR signal from the HDMI source to the HDMI sink



### 1) Control the sources at the sinks side

Step1: Connect 8pcs "IR Out" cables to "IR Out" ports 1-8 on the matrix, connect 8pcs "IR In" cables to the "IR In" ports 1-8 on the receivers.

Step2: Affix the 8xIR emitter of "IR out" cables to the IR window of the 8xHDMI source

Step3: Aim the remote control of HDMI source which you choosed to the "IR In" cable which connected to the receiver.

For example:

If you choosed HDMI source1, then just aim the remote control of HDMI source1 to the "IR In" cable which connected to the receiver.

### 2) Control the sinks at the sources side

Step1: Connect 8pcs "IR Out" cables to "IR Out" ports 1-8 on the receivers, connect 8pcs "IR In" cables to the "IR In" ports 1-8 on the matrix.

Step2: Affix the 8xIR emitter of "IR out" cables to the IR window of the 8xHDMI Sink.

Step3: Aim the remote of HDMI sink to related IR receiver of HDMI Matrix.

For example:

If you need control HDMI Sink1, then just aim the remote of HDMI Sink1 to the "IR In1" port of HDMI Matrix.

### 3) Control the HDBaseT Matrix at the sinks side

Aim the remote of the HDBaseT Matrix to the "IR In" cable which connected to the receiver.

### 4) Control the HDBaseT Matrix from "IR Ext" port

Aim the remote of the HDBaseT Matrix to the "IR In" cable which connected to the "IR Ext" Port.

5) IR In----"All" : for any one of the IR in from 1 to 8

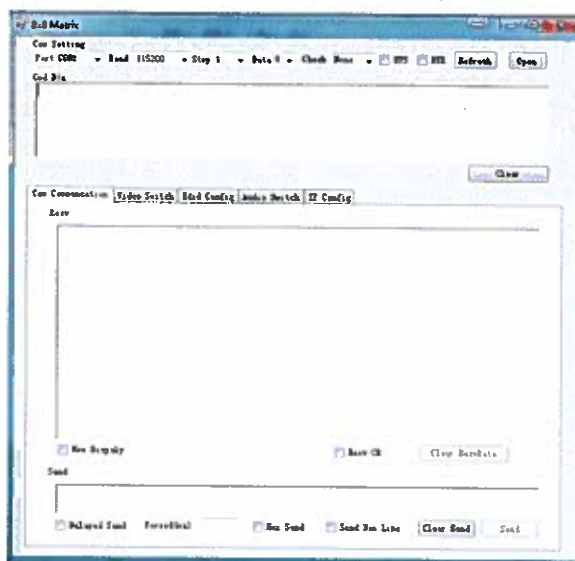
6) IR out----"All" : for any one of the IR out from 1 to 8

9. RS232 Control

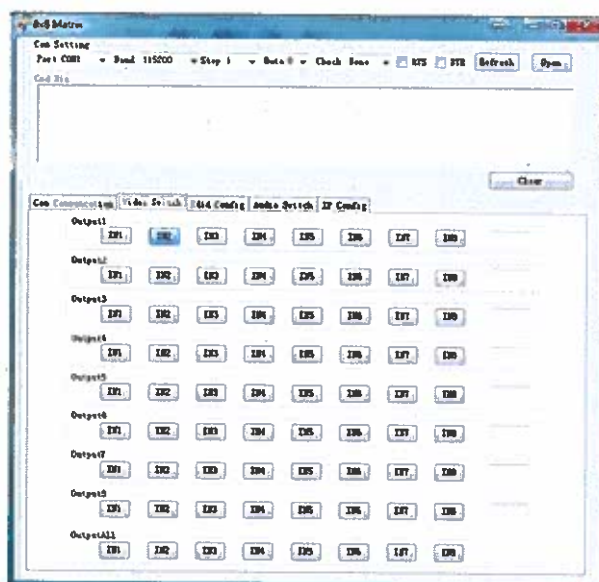
9.1 Software Control (PC tool)

Connect the 8X8 HDBaseT Matrix to PC with a RS232 cable, open the software included in the CD Manual. Select the correct port which is connected with PC, set the COM port as below, click Connect to get connected.

Baud Rate:	115200 bps
Parity:	None
Data Bits:	8 bit
Stop Bits:	1 bit



Introduction of the main interface of the PC tool (picture 12)

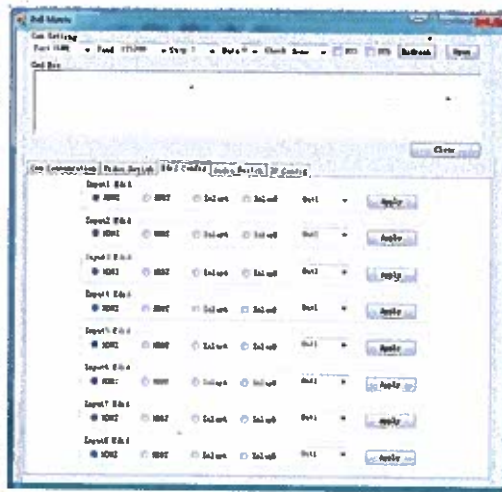


Switch video interface (picture 13)

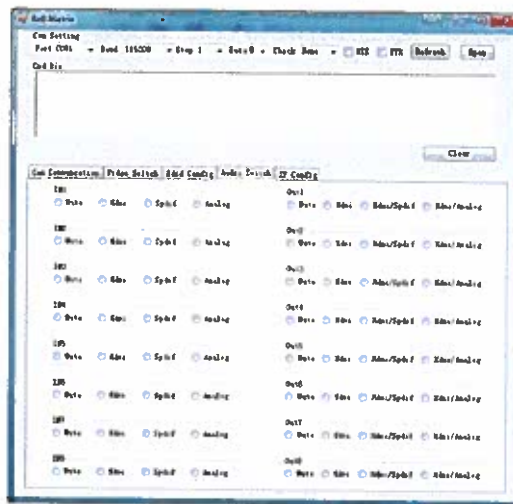




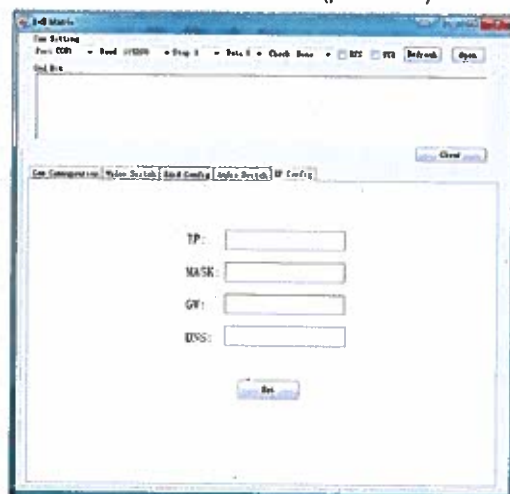
Operating Instruction



EDID config Interface(picture 14)



Audio Switch interface(picture 15)



IP config interface(picture 16)



### 9.2 Command Control

Open the Control Software.

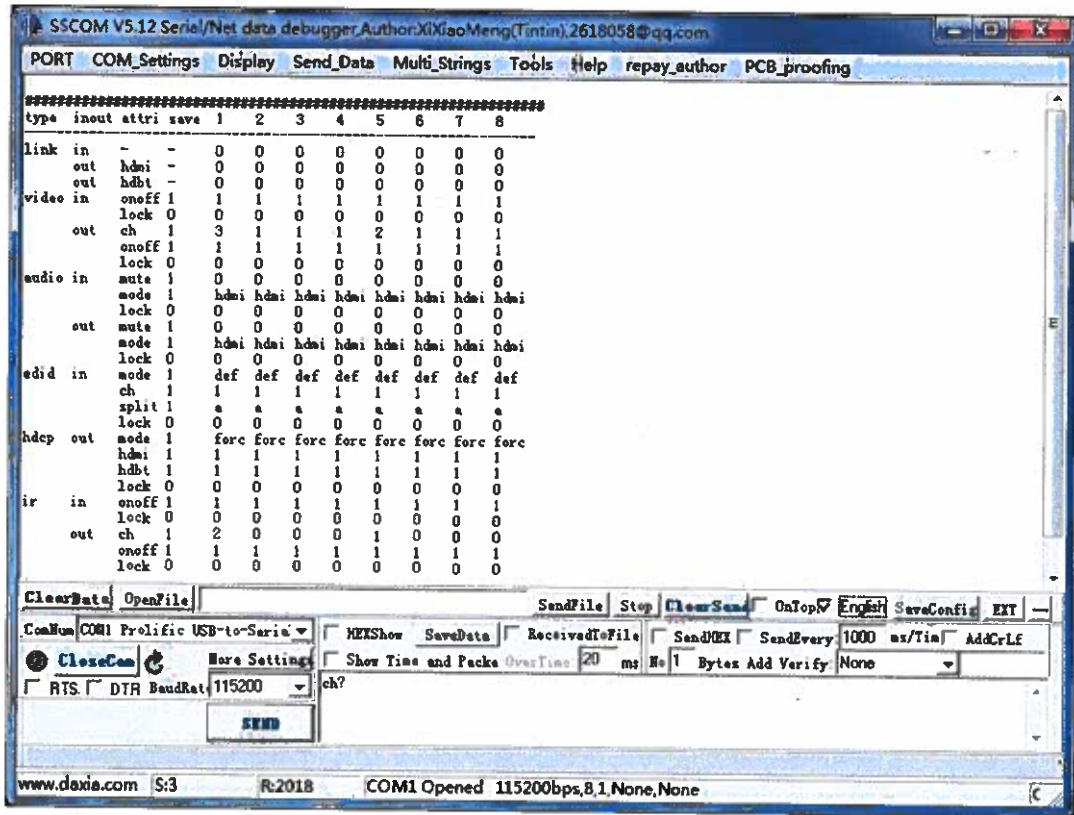
We take "SSCOM32" as an example.

Step1: Double click the software to install the RS232 control software in the PC.



Setup Icon

Step2: Enter the interface as below:



Picture-PC port control interface(picture 17)

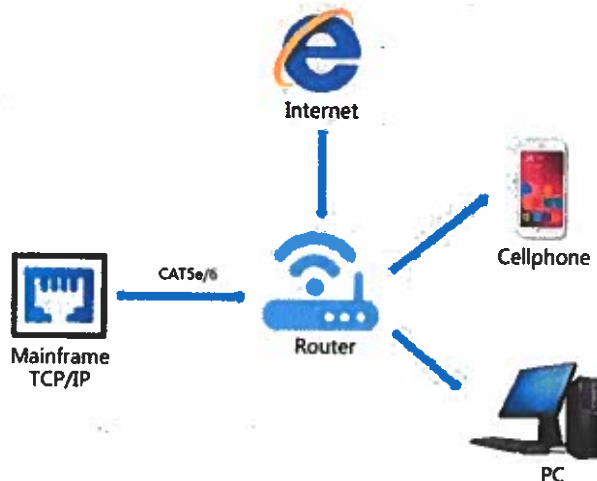
Then we can send commands to control the matrix.

The command list is included in the CD Manual .



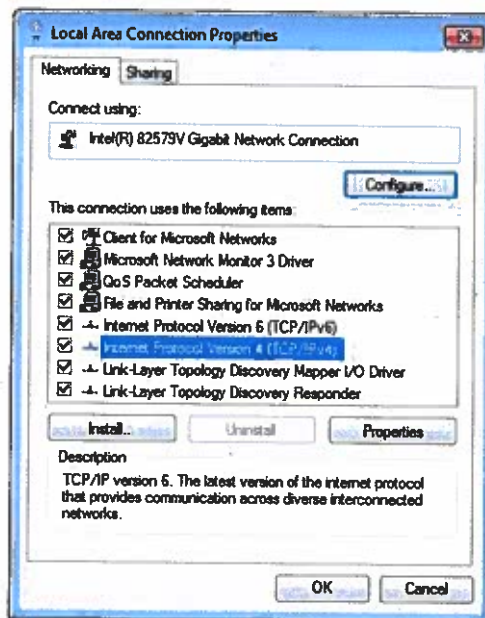
## 10. Web Control

The default IP Address of the Matrix 192.168.1.88, Mask: 255.255.255.0, GW: 192.168.1.1, DNS: 114.114.114.114.



### 10.1 Change the IP address of your PC.

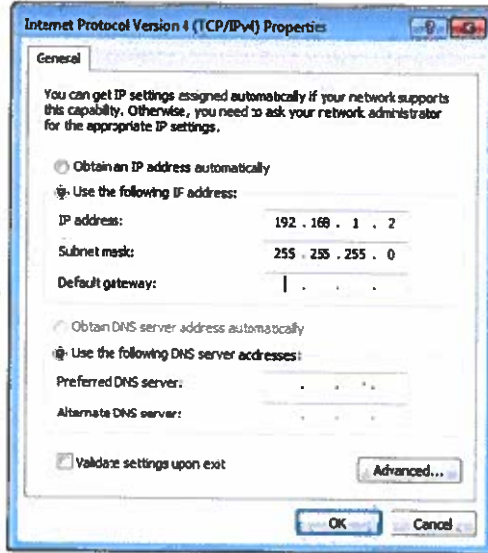
- 1). Connect the Ethernet port of matrix to the Ethernet port on PC by a crossover cable with RJ45 connectors.
- 2). Configure your PC as follows:
  - ① Click **Start > Control Panel > Network and Sharing Center**.
  - ② Click **Change Adapter Settings**.
  - ③ Highlight the network adapter you want to use to connect to the device and click **Change settings of this connection**.
- 3). The local Area connection properties window for Network selection appears as below::



Picture 18



- 4). Click the Highlight Internet Protocol Version 4 (TCP/IPv4).
- 5). Click Properties.
- 6). Select Use the following IP Address for static IP addressing and fill in the details.  
For TCP/IPv4 you can use any IP address in the range 192.168.1.1 to 192.168.1.255 (excluding 192.168.1.88).



Picture 19

- 7). Click OK.
- 8). Click Close.

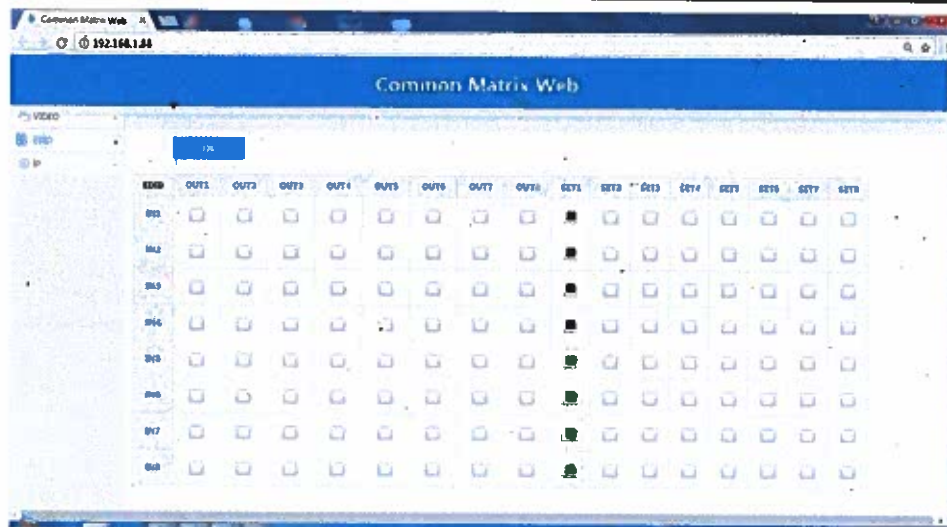
**10.2 Enter Web and Control.**

- 1) Enter the default IP address of the matrix: 192.168.1.88.
- 2) You will see following picture and control:

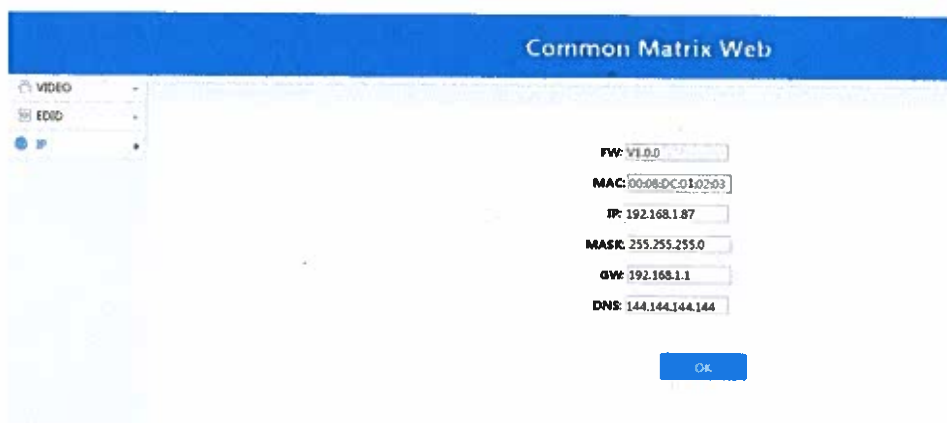


Video Switch(picture 20)

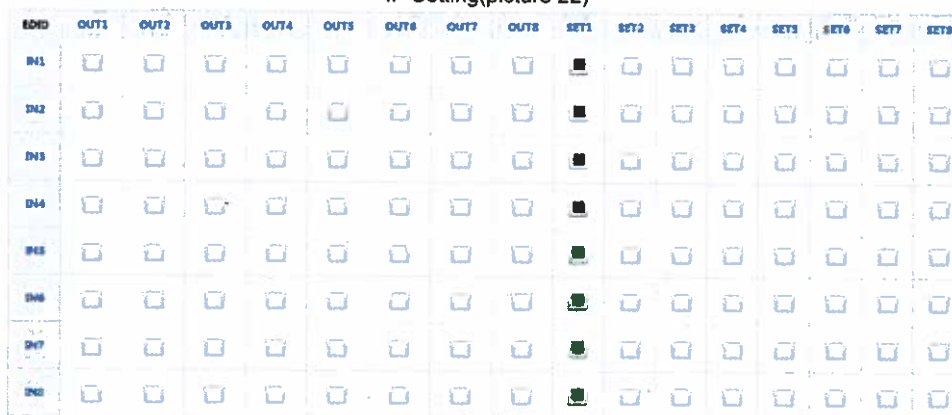




EDID Setting(picture 21)



IP Setting(picture 22)



EDID Switch(picture 23)

**Note:**

Click mouse once, green, mean HDMI EDID copy  
 Click mouse twice, black, mean HDBaset EDID copy  
 SET1-8-----Green: Inlay A, Black: Inlay B



### 11. Audio Introduction

The HDBaseT Matrix supports HDMI Audio , Analog and SPDIF Audio Embedded, Analog and SPDIF Audio Extraction .

- 1) HDMI Audio: Support PCM 7.1, Dolby , DTS Audio
- 2) Analog Audio embedded (under 4K@60HZ 4:2:0)
- 3) SPDIF Audio embedded ( under 1080P@60HZ)

Choose the Audio by PC Tool or sending commands.

### 12.RS232 Pass through

By RS232 Command , the matrix can send RS232 data to control the receivers ,also the receiver can send RS232 data to control the Matrix.

Please refer to the command list which included in the manual.

### 13. USB Online upgrading Firmware

Step1: Copy the software "Virtual COM Port Driver(V1.3.1) " from the CD Manual.

Double click the software to install it on the PC.

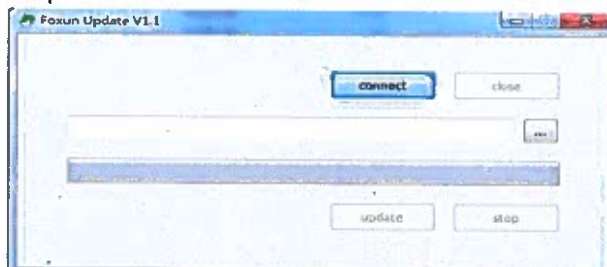
Step2: Connect the Matrix with PC by USB Micro Cable.

Step3: Open the Upgrade Software to upgrade firmware (Including in the Manual )



Update  
Firmware

Step4:Click "Connect"



Step5: Click  to upload the firmware

Step6: Click "Update"to start Upgrade.

Step7: When finished the upgrading , it will show"Upgrade success".



**Note: When it stops during the upgrading, you'll need reboot the matrix and re-upgrade it.**



**MAINTENANCE**

Clean this unit with a soft, dry cloth. Never use alcohol, paint thinner or benzene to clean this unit.

**PRODUCT SERVICE****(1) Damage requiring service:**

The unit should be serviced by qualified service personnel if:

- (a) The DC power supply cord or AC adaptor has been damaged;
- (b) Objects or liquids have gotten into the unit;
- (c) The unit has been exposed to rain;
- (d) The unit does not operate normally or exhibits a marked change in performance;

The unit has been dropped or the cabinet damaged.

**(2) Servicing Personnel:** Do not attempt to service the unit beyond that described in these operating instructions. Refer all other servicing to authorized servicing personnel.

**(3) Replacement parts:** When parts need replacing ensure the servicer uses parts specified by the manufacturer or parts that have the same characteristics as the original parts. Unauthorized substitutes may result in fire, electric shock, or other Hazards.

**(4) Safety check:** After repairs or service, ask the servicer to perform safety checks to confirm that the unit is in proper working condition.

**WARRANTY**

If your product does not work properly because of a defect in materials or workmanship, our Company (referred to as "the warrantor" ) will, for the length of the period indicated as below, **(Parts)2 Year, Labor(90) Days** which starts with the date of original purchase ("Limited Warranty period"), at its option either (a) repair your product with new or refurbished parts, or (b) replace it with a new or a refurbished product. The decision to repair or replace will be made by the warrantor.

During the "Labor" Limited Warranty period there will be no charge for labor.

During the "Parts" warranty period, there will be no charge for parts. You must mail-in your product during the warranty period. This Limited Warranty is extended only to the original purchaser and only covers product purchased as new. A purchase receipt or other proof of original purchase date is required for Limited Warranty service.

**MAIL-IN SERVICE**

When shipping the unit carefully pack and send it prepaid, adequately insured and preferably in the original carton. Include a letter detailing the complaint and provide a day time phone and/or email address where you can be reached.

**LIMITED WARRANTY LIMITS AND EXCLUSIONS**

1) This Limited Warranty ONLY COVERS failures due to defects in materials or workmanship, and DOES NOT COVER normal wear and tear or cosmetic damage. The Limited Warranty ALSO DOES NOT COVER damages which occurred in shipment, or failures which are caused by products not supplied by warrantor, or failures which result from accidents, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty



installation, set-up adjustments, misadjustment of consumer controls, improper maintenance, power line surge, lightning damage, modification, or service by anyone other than a Factory Service center or other Authorized Servicer, or damage that is attributable to acts of God.

2) THERE ARE NO EXPRESS WARRANTIES EXCEPT AS LISTED UNDER "LIMITED WARRANTY COVERAGE". THE WARRANTOR IS NOT LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF ANY BREACH OF THIS WARRANTY. (As examples, this excludes damages for lost time, cost of having someone remove or re-install an installed unit if applicable, travel to and from the service, loss of or damage to media or images, data or other recorded content. The items listed are not exclusive, but are for illustration only.)

3) PARTS AND SERVICE, WHICH ARE NOT COVERED BY THIS LIMITED WARRANTY, ARE YOUR RESPONSIBILITY.





# HFX

## 4K HDMI Extender over Fiber Optic Cables



Extend uncompressed HDMI signals up to 1,000 feet over multimode fiber optic cabling, with resolutions up to 4K Ultra HD

### FEATURES

- Supports HDMI 1.4a
- HDCP Compliant
- Extends HDMI signals up to 1,000 feet at 10.3Gbps with OM3 multimode fiber optic cabling
- Supports resolutions up to 4K Ultra HD (@30Hz)
- Hot Pluggable
- EMI/RFI Resistant

### APPLICATIONS

- Corporate or Educational Presentations
- Financial (Remote Servers/User Control)
- Industrial (Long-Range Workstation Isolation)
- Information Terminals/Kiosks
- Airport Installations (Air Traffic Control/ Passenger Information)
- KVM Extension
- Medical Campuses (Remote Operation Away from Sensitive/Magnetic Equipment)
- Recording Studios
- Hotels/Resort



**Smart-AVI**  
SMART AUDIO VIDEO INNOVATION

## OVERVIEW

For reliable, uninterrupted and long-distance HDMI extension, the HFX-Pro provides the best solution with its fiber optic extension capabilities. Users can bridge large gaps that they ordinarily could not with this compact device. The HFX includes the transmitter and receiver, for complete point-to-point signal extension, with no need for any other hardware or software.

The HFX delivers uncompressed HDMI signals up to 1,000 feet (300 meters). Supported resolutions go up to 4K Ultra HD (@30Hz), and 3D HD video is also supported. As with all HDMI connections, high-quality digital audio is also transmitted via the extender.

Fiber optic signal extension is the newest and best way to break the distance barriers that plague traditional HDMI connections. By providing additional distance from the input device to the screen, users can handle their HD viewing needs in a number of important environments. This is useful for separating equipment and computers from the place where users are viewing content, which includes environments like medical offices, recording studios, financial centers and much more. Furthermore, fiber optic cables are resistant to electromagnetic and radio frequency interference, creating a stable and reliable connection.

## APPLICATION DIAGRAM



## SPECIFICATIONS



VIDEO	
Format	HDMI 1.4 and HDCP compliant
HDTV Resolutions	480p, 720p, 1080i, 1080p/60Hz/48bit, 4Kx2K/30Hz
TV Resolution	480i
Refresh Rate	Up to 130Hz
Wavelength	850 nm
Bit Error Rate Performance	1.00E-12
Input Interface (TX)	HDMI Type A 19-pin Female TMDS
Output Interface (RX)	HDMI Type A 19-pin Female TMDS
Input Cable Length (TX)	Up to 40 ft.
Output Cable Length (RX)	Up to 40 ft.
Format	Dolby TrueHD, DTS-HD MA
Input Interface	HDMI (Integrated)
Output Interface	HDMI (Integrated)
Laser Output Power	Class 1, EN 60825-1 2007; EN 60825-2 A2 2010

SYSTEM	
Output Interface	Fiber Optic
Output Cable	Multimode
Maximum Length	1,000 ft (300 m)
OTHER	
Power	External 100-240 VAC/5VDC2A @10W
Dimensions	5" W x 1.125" H x 4.125" D
Weight	1 lbs.
Approvals	UL, CE, ROHS Compliant
Operating Temp.	32-131°F (0-55 °C)
Storage Temp.	-4-185 °F (-20-85 °C)
Humidity	Up to 95%

ORDERING INFORMATION	
Part No.	Description
HFX-S	HDMI Point to Point Fiber Extender. Includes: [HFX-TX, HFX-RX, 2 x (PS5VD2A-WLLMNT)]
HFX-TXS	HDMI 2K/4K Multimode Fiber Transmitter. Includes: [HFX-TX, PS5VD2A-WLLMNT]
HFX-RXS	HDMI 2K/4K Multimode Fiber Receiver. Includes: [HFX-RX, PS5VD2A-WLLMNT]



Designed and Manufactured in the USA



[www.smartavi.com](http://www.smartavi.com)

Tel: 800.AVI.2131 • 818.503.6200  
2455 W Cheyenne Ave, Suite 112  
North Las Vegas, NV 89032

**Smart-AVI**  
SMART AUDIO VIDEO INNOVATION



## Warranty Letter

October 22, 2019

To whom it May concern:

This letter certificate extends warranty of our (Mini Advanced HD-4i, TC1SP, NDIHX-PTZ1, Connect Pro) for a period of 24 months (2 years) to be use in the (CP-CPJ-BS-022-2019 / SOLUCIÓN DE GRABACIÓN Y TRANSMISIÓN DIGITAL) concourse. This warranty covers the repair or replacement of the unit in case of be necessary at our discretion after the properly inspection.

This warranty does not provide coverage for lost or destroyed equipment's. This warranty is void if the equipment it is altered in any way or receives an improperly use out of the standard operation described in the factory manual.

Expecting your experience to be like no other one with our products and services.

Yours faithfully,

A handwritten signature in blue ink that reads 'Brian Olson'.

**Brian Olson**  
Vice President of Product Management

NewTek, Inc. 5131 Beckwith Blvd., San Antonio, TX 78249, Phone: +1 800-368-5441 (US) Fax: +1 210-370-8002 (US)



Diagrama de Conexion y Flujo Sistema de Video, Audio y Streaming (Sala Augusta y Areas Adicionales)

