DSE24A

Digital Signage MPEG-2 Encoder with QAM Output

INSTRUCTION MANUAL

Model	Item #	Description
DSE24A	1002571A	Digital Signage MPEG-2 Encoder with QAM Output
DSE24A Rack Panel	1002565A	Rack Mount Panel for (2) DSE24A Encoders

937-746-4556

www.rldrake.com

We recommend that you write the following information in the spaces provided below.

Purchase Location Name:	
Purchase Location Telephone Number:	
DSE24A Serial Number:	

This product incorporates copyright protection technology that is protected by U.S. patents and other intellectual property rights. Reverse engineering or disassembly is prohibited.

Manual Revision

Rev. C: Manual adds support for custom video and transport stream bit rate settings. (firmware v1.0.1)

Rev B: Manual adds cross link cable to Installation & Setup – Unpacking on page 10.

Rev A: First User Manual for DSE24A Encoder. (firmware v0.9.0.0)

For more information regarding product firmware releases, please visit our website at www.rldrake.com. You may also contact Technical Assistance at 937-746-6990 or by email: servicehelp@rldrake.com

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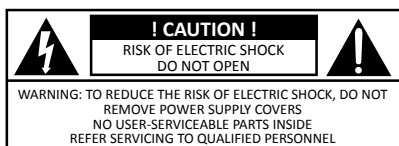
SERVICE & WARRANTY

Important Safety Instructions

1. Read Instructions—All the safety and operating instructions should be read before the product is operated.

2. Retain Instructions—The safety and operating instructions should be retained for future reference.

3. Heed Warnings—All warnings on the product and in the operating instructions should be adhered to.

4. Follow Instructions—All operating and use instructions should be followed.

5. Cleaning—Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleansers. Use a damp cloth for cleaning.

6. Attachments—Do not use attachments that are not recommended by the product manufacturer as they may cause hazards.

7. Water and Moisture—Do not use this product near water—for example, near a bathtub, wash bowl, kitchen sink or laundry tub; in a wet basement; or near a swimming pool; and the like.

8. Accessories—Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.

9. A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.

10. Ventilation—Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or similar surface. This product should not be placed in a built-in installation such as bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

11. Power Sources—This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied to your home, consult your product dealer or local power company. For products intended to operate from battery power, or other sources, refer to the operating instructions.

12. Grounding or Polarization—This product may be equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug. Alternate Warnings—If this product is equipped with a three-wire grounding-type plug, a plug having a third (grounding) pin, the plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.

13. Power-Cord Protection—Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.

14. Outdoor Antenna Grounding—If an outside antenna or cable system is connected to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure A.

15. Lightning—For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.

16. Power Lines—An outside antenna system should not be located in the vicinity of overhead power lines, other electric light or power circuits, where it can fall into such power lines or circuits.

17. Overloading—Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.

18. Object and Liquid Entry—Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

19. Servicing—Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

20. Damage Requiring Service—Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

  a. When the power-supply cord or plug is damaged,

  b. If liquid has been spilled, or objects have fallen into the product,

  c. If the product has been exposed to rain or water,

  d. If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation,

  e. If the product has been dropped or damaged in any way, and

  f. When the product exhibits a distinct change in performance—this indicates a need for service.

21. Replacement Parts—When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutes may result in fire, electric shock or other hazards.

22. Safety Check—Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

23. Wall or Ceiling Mounting—The product should be mounted to a wall or ceiling only as recommended by the manufacturer.

24. Heat—The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

CAUTION STATEMENT

WARNING: TO PREVENT FIRE OR ELECTRICAL SHOCK DO NOT EXPOSE TO RAIN OR MOISTURE

! CAUTION !
RISK OF ELECTRIC SHOCK
DO NOT OPEN

WARNING: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT
REMOVE POWER SUPPLY COVERS
NO USER-SERVICEABLE PARTS INSIDE
REFER SERVICING TO QUALIFIED PERSONNEL

An appliance and cart combination should be moved with care. Quick stops, excessive force and uneven surfaces may cause the appliance and cart combination to overturn.

The lightning flash with arrow head symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.
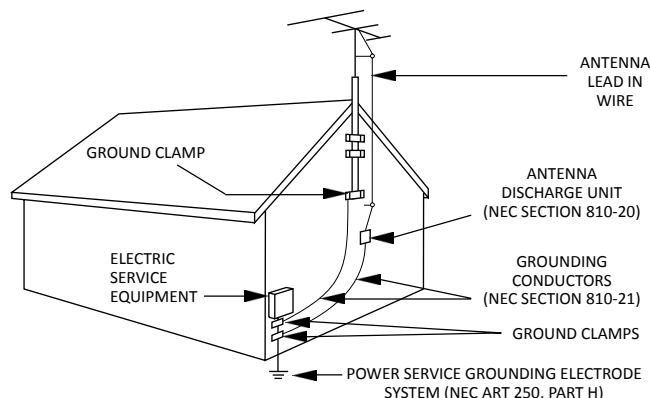
The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE. DO NOT OPEN THE CABINET, REFER SERVICING TO QUALIFIED PERSONNEL ONLY.

CAUTION: TO PREVENT ELECTRIC SHOCK, DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

FIGURE A

Example of antenna grounding as per National Electrical Code, ANSI/NFPA 70

ANTENNA LEAD IN WIRE

GROUND CLAMP

ANTENNA DISCHARGE UNIT (NEC SECTION 810-20)

ELECTRIC SERVICE EQUIPMENT

GROUNDING CONDUCTORS (NEC SECTION 810-21)

GROUND CLAMPS

POWER SERVICE GROUNDING ELECTRODE SYSTEM (NEC ART 250, PART H)

NEC - NATIONAL ELECTRIC CODE

NOTE TO CATV SYSTEM INSTALLERS:

THIS REMINDER IS PROVIDED TO CALL THE CATV SYSTEM INSTALLER'S ATTENTION TO ARTICLE 820 - 40 OF THE NEC WHICH PROVIDES GUIDELINES FOR PROPER GROUNDING AND, IN PARTICULAR, SPECIFIES THAT THE CABLE GROUND SHALL BE CONNECTED TO THE GROUNDING SYSTEM OF THE BUILDING, AS CLOSE TO THE POINT OF CABLE ENTRY AS PRACTICAL.

Importantes De Sécurité

1. Lire les directives—Toutes les directives de sécurité et d'utilisation devraient être lues avant de mettre l'appareil en opération.

2. Conserver les directives—Les directives de sécurité et d'utilisation devraient être conservées pour consultation future.

3. Tenir compte des avertissements—Tous les avertissements apparaissant sur l'appareil et dans les consignes d'utilisation devraient être respectés.

4. Suivre les directives—Toutes les directives d'opération et d'utilisation devraient être suivies.

5. Nettoyage—Débrancher l'appareil de la prise électrique murale avant le nettoyage. Ne pas utiliser de nettoyants liquides ou aérosols. Employer un linge humide pour le nettoyage.

6. Fixation—Ne pas utiliser d'autres fixations que celles recommandées par le manufacturier; elles pourraient être source de dangers.

7. Eau et humidité—Ne pas utiliser cet appareil près de l'eau. Par exemple, près d'une baignoire, d'un bac de lavage, d'un évier de cuisine ou d'une cuvette de lessivage; dans un sous-sol humide; ou à proximité d'une piscine; et autres environnements similaires.

8. Accessoires—Ne pas installer cet appareil sur un chariot, un socle, un trépied, un support ou une table instables. L'appareil pourrait tomber, entraînant des blessures graves à un enfant ou à un adulte, et des dommages importants à l'appareil. Employer seulement avec un chariot, un socle, un trépied, un support, ou une table recommandés par le fabricant ou vendu avec l'appareil. Toute installation de l'appareil devrait être conforme aux directives du manufacturier et devrait utiliser des accessoires d'installation recommandés par celui-ci.

9. Un chariot supportant l'appareil devrait être déplacé avec précaution. Les arrêts brusques, la force excessive et les surfaces inégales peuvent renverser le chariot.

10. Ventilation—Des fentes et ouvertures dans le châssis sont prévues pour la ventilation de l'appareil, pour en assurer la fiabilité d'opération et le protéger contre la surchauffe. Ces ouvertures ne doivent pas être bloquées ou recouvertes. Ces ouvertures ne devraient jamais être bloquées en plaçant l'appareil sur un lit, un sofa, une couverture, ou une surface semblable. Cet appareil ne devrait pas être installé dans un meuble encastré comme une bibliothèque ou une étagère à moins de lui fournir une ventilation adéquate ou que l'installation soit conforme aux directives du manufacturier.

11. Sources d'alimentation électrique—Cet appareil devrait être utilisé seulement avec le type d'alimentation électrique inscrite sur l'étiquette. Si vous n'êtes pas certain du type d'alimentation électrique fourni à votre maison, consultez le vendeur de l'appareil ou l'entreprises d'énergie locale. Pour des appareils alimentés par une batterie ou d'autres sources, se référer aux consignes d'utilisation.

12. Mise à la terre ou Polarisation—Cet appareil est équipé avec un cordon d'alimentation à trois fils. Il est à brancher sur une prise ayant un connecteur a la terre. Assurez-vous que la connection a la terre ne manque pas.

13. Protection du cordon d'alimentation—Les cordons d'alimentation devraient être disposés de façon à ce qu'on ne puisse marcher dessus ou qu'ils soient susceptibles d'être coincés par des articles placés sur ou contre eux. Une attention particulière doit être portée aux fiches, prises de courant, et aux points où ils sortent de l'appareil.

14. Mise à la terre de l'antenne extérieure—Si un système extérieur d'antenne ou de câble est relié à l'appareil, s'assurer que le système d'antenne ou de câble est muni d'une mise à la terre afin de fournir une certaine protection contre les surtensions et les charges d'électricité statique. L'article 810 du code électrique national, ANSI/NFPA 70, fournit l'information nécessaire en ce qui concerne la mise à la terre appropriée du mât et de la structure porteuse, la mise à la terre du câble de connexion à une unité de décharge d'antenne, le calibre des conducteurs de mise à la terre, la location de l'unité de décharge d'antenne, le raccordement aux électrodes de mise à la terre et les spécifications pour les électrodes de mise à la terre. Voir la figure A.

15. Foudre—Pour une protection supplémentaire de cet appareil pendant un orage électrique, ou quand il est laissé sans surveillance et inutilisé pendant de longues périodes, le débrancher de la prise électrique murale et déconnecter le système d'antenne ou de câble. Ceci préviendra les dommages à l'appareil dus à la foudre et aux surtensions.

16. Lignes électriques—Un système d'antenne extérieur ne devrait pas être situé à proximité de lignes électriques aériennes ou de tout autre circuit électrique, où il pourrait tomber sur de tels circuits ou lignes électriques. Lors de l'installation d'un système d'antenne extérieur, d'extrêmes précautions devraient être prises afin de prévenir tout contact avec des lignes ou circuits électriques. Entrer en contact avec de tels circuits ou lignes électriques pourrait être fatal.

17. Surcharge—Ne pas surcharger les prises de courant murales, les rallonges électriques ou les prises de courant intégrées. Un risque d'incendie ou de choc électrique pourrait résulter d'une telle surcharge.

18. Insertion d'objet ou de liquide—Ne jamais insérer d'objet par les ouvertures de cet appareil. Il pourrait toucher des points de voltage dangereux ou court-circuiter des pièces, ce qui pourrait résulter en incendie ou en choc électrique. Ne jamais verser de liquide sur l'appareil.

19. Entretien—Ne pas essayer de faire soi-même l'entretien de cet appareil. En ouvrir ou en retirer les couvercles pourrait vous exposer à des voltages dangereux ou à d'autres dangers. Confier tout entretien à un personnel de service qualifié.

20. Dommage exigeant un entretien—Débrancher cet appareil de la prise de courant électrique et confier l'entretien au personnel de service qualifié dans les éventualités suivantes:

   a. Quand le cordon d'alimentation ou sa fiche sont endommagés,

   b. Si des objets sont tombés dans l'appareil, ou si du liquide y a été renversé,

   c. Si l'appareil a été exposé à la pluie ou à l'eau,

   d. Si l'appareil ne fonctionne pas normalement en suivant les consignes d'utilisation. Ajuster seulement les commandes qui sont mentionnées dans le guide d'opération. Un mauvais ajustement des autres commandes pourrait causer des dommages à l'appareil et souvent exiger un travail supplémentaire de la part d'un technicien qualifié pour remettre l'appareil en état normal d'opération.

   e. Si l'appareil a été échappé ou endommagé de n'importe quelle façon, et

   f. Quand l'appareil montre un changement notable de performance – ceci indique qu'un entretien est nécessaire.

21. Pièces de rechange—Si des pièces de rechange sont nécessaires, s'assurer que le technicien de service a employé des pièces de rechange spécifiques du manufacturier ou ayant les mêmes caractéristiques que les pièces originales. L'utilisation de pièces de rechange non autorisées pourrait résulter en incendie, choc électrique ou autres dangers.

22. Vérification de sécurité—À la suite de toute réparation ou entretien de cet appareil, demander au technicien de service d'exécuter des vérifications de sécurité afin de s'assurer que l'appareil est en condition normale de fonctionnement.

23. Montage au mur ou au plafond—L'appareil ne devrait être monté au mur ou au plafond qu'uniquement de la façon recommandée par le manufacturier.

24. Chaleur—L'appareil devrait être situé loin de sources de chaleur telles que des radiateurs, des registres de chaleur, des fourneaux, ou d'autres appareils (y compris amplificateurs) produisant de la chaleur.

ATTENTION DÉCLARATION

AVERTISSEMENT: AFIN D'ÉVITER TOUT RISQUE D'INCENDIE OU D'ÉLECTROCUTION, NE PAS EXPOSER CET APPAREIL À LA PLUIE OU À L'HUMIDITÉ.

! AVERTISSEMENT !

RISQUE DE CHOC ELECTRIQUE - NE PAS OUVRIR

ATTENTION: POUR RÉDUIRE LE RISQUE D'ÉLECTROCUTION, NE PAS ENLEVER LE DOS DE L'APPAREIL NI OUVRIR LE BOÎTIER. AUCUNE PIÈCE N'EST RÉPARABLE PAR L'UTILISATEUR À L'INTÉRIEUR. SE RÉFÉRER UNIQUEMENT À DES TECHNICIENS QUALIFIÉS POUR L'ENTRETIEN.

Une combinaison de l'appareil et chariot doit être déplacé avec précaution. Des arrêts brusques, une force excessive et des surfaces inégales peuvent causer la combinaison de l'appareil et le chariot.

Le symbole de l'éclair à l'intérieur d'un triangle équilatéral est destiné à alerter l'utilisateur sur la présence d'une "tension dangereuse" non isolée dans le boîtier du produit. cette tension est suffisante pour provoquer l'électrocution de personnes.
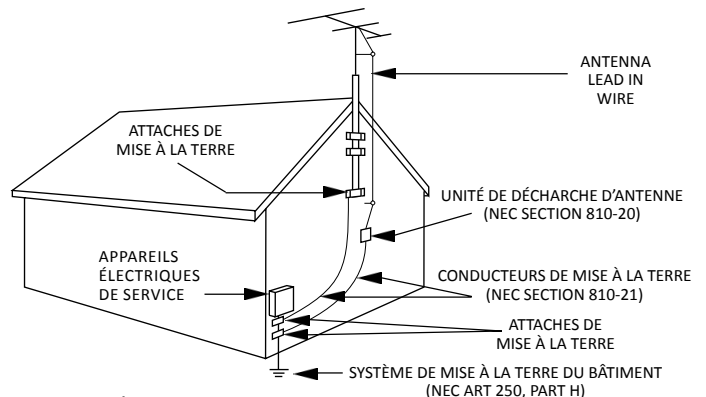
Le point d'exclamation à l'intérieur d'un triangle équilatéral est destiné à alerter l'utilisateur sur la présence d'opérations d'entretien importantes au sujet desquelles des renseignements se trouvent dans le manuel d'instructions.

AVERTISSEMENT: AFIN D'ÉVITER TOUT RISQUE D'INCENDIE OU D'ÉLECTROCUTION, NE PAS EXPOSER CET APPAREIL À LA PLUIE OU À L'HUMIDITÉ. NE PAS OUVRIR LE BOÎTIER, CONFIER TOUS TRAVAUX À DU PERSONNEL TECHNIQUE QUALIFIÉ.

CAUTION: POUR PREVENIR LES CHOCS ELECTRIQUES, NE PAS UTILISER CETTE FICHE POLARISEE AVEC UN PROLONGATEUR, UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSEREES A FOND SANS EN LAISSER AUCUNE PARTIE A DECOUVERT.

FIGURE A

Exemple de mise à la terre d'antenne selon le Code Électrique National, ANSI/NFPA 70

ANTENNA LEAD IN WIRE

ATTACHES DE MISE À LA TERRE

UNITÉ DE DÉCHARCHE D'ANTENNE (NEC SECTION 810-20)

APPAREILS ÉLECTRIQUES DE SERVICE

CONDUCTEURS DE MISE À LA TERRE (NEC SECTION 810-21)

ATTACHES DE MISE À LA TERRE

SYSTÈME DE MISE À LA TERRE DU BÂTIMENT (NEC ART 250, PART H)

NEC - CODE ÉLECTRIQUE NATIONAL

NOTE AUX INSTALLATEURS DE SYSTÈME DE CATV:

CE RAPPEL EST FOURNI POUR PORTER À L'ATTENTION DES INSTALLATEURS DE SYSTÈME DE CATV, L'ARTICLE 820 - 40 DU NEC QUI DONNE DES DIRECTIVES POUR UNE MISE À LA TERRE APPROPRIÉE ET, EN PARTICULIER, SPÉCIFIE QUE LE CÂBLE DE MISE À LA TERRE DEVRAIT ÊTRE RACCORDÉ AU SYSTÈME DE MISE À LA TERRE DU BÂTIMENT LE PLUS PRÈS POSSIBLE DE L'ENTRÉE DU CÂBLE.

General Description & Features

INTRODUCTION

The DSE24A is a single channel HD encoder with RF QAM and IP outputs. Drake's DSE24A encodes an uncompressed video source from devices with HDMI, high-resolution component, composite or VGA outputs. The DSE24A encodes the incoming video to MPEG2. It is then internally connected to a QAM modulator and low-noise upconverter. The DSE24A comes as a small, modular desktop model but can be rack-mounted in just 1RU of height by using the optional 19" rack mounting panel. Control and access is through a GUI-based menu via Web browser.

Distribution is over legacy coaxial networks. This provides instant access to an extensive network of digital displays capable of viewing valuable ad-based or informational video in a vibrant high-definition format.

FEATURES

- Receives High-Resolution Component, Composite, VGA, or HDMI (non-HDCP content-protection) from one video source
- QAM and IP Outputs
- Digitally Encodes to MPEG2
- Encodes to resolutions of 480i, 720p, or 1080i
- Supports custom video and transport stream bit rate settings
- Audio Encoding to Dolby® Digital
- Supports Closed Captioning
- GUI-based Remote Network Control and Monitoring
- Desktop Model

Specifications

DSE24A Digital Signage MPEG-2 Encoder with QAM Output   Item # 1002571A

INPUT

Component

Connector(s):	3x RCA for Video (Y, Pb, Pr)
Video Resolution:	480i, 720p, & 1080i
Video Aspect Ratio:	4:3 & 16:9
Audio:	2x RCA for Analog Audio (L, R) 1x RCA for Digital Audio (PCM)

HDMI

Connector(s):	1x HDMI
Video Resolution:	480i, 720p, & 1080i
HDCP Encryption:	Not Supported
Audio:	Embedded PCM & pass-thru Dolby® Digital only

VGA

Connector(s):	2x Female VGA (Input + Loop-through Output)
Video Resolution:	640x480 @ 60 fps 800x600 @ 60 fps 1024x768 @ 60 fps
Audio:	2x RCA for Analog Audio (L, R) 1x RCA for Digital Audio (PCM)

Composite

Connector(s):	1x RCA for Video (Y)
Video Resolution:	480i
Audio:	2x RCA for Analog Audio (L, R) 1x RCA for Digital Audio (PCM)

ENCODING PROFILE

Video

Output Format:	MPEG-2 HD MP@ML; ISO 13818-2
Chroma:	4:2:0
Resolution:	480i, 720p, & 1080i
Frame Rate:	29.97 fps (480i); 29.97 fps (1080i); 59.97 fps (720p)
Aspect Ratio:	4:3 & 16:9
GOP Structure:	I & P frames (user selectable)
Video Bit Rate:	Variable (user selectable)
Video Pre-filter:	Variable (user selectable)
Color Space:	YCbCr and RGB

Audio

Output Format:	Dolby® Digital
Sampling Rate:	48 kHz
Bit Rate:	Variable; 96 - 448 Kbps

Closed Captioning

Component:	EIA-608; 1x RCA (CC)
HDMI:	EIA-608; 1x RCA (CC)
VGA:	EIA-608; 1x RCA (CC)
Composite:	EIA-608

OUTPUT

RF QAM

Connector(s):	1x "F" Female (Rear-panel)
Modulation:	QAM 16, 32, 64, 128, and 256
Standards:	ITU-T J.83; Annex A and B
Frequency Range:	5 to 1002 MHz
Tuning:	CATV Channel Selectable (T7 to T14, 2 to 158)
Channel Bandwidth:	6 MHz
RF Level:	+40 dBmV ±1 dB
RF Level Adjustment:	+35 to +42 dBmV, 0.5 dB increment
Frequency Stability:	± 5 kHz over 32 to 122 °F (0 to 50 °C)
Frequency Tolerance:	± 0.5 kHz @ 77 °F (25 °C)
Phase Noise:	-98 dBc (@ 10 kHz)
Spurious:	-60 dBc
Broadband Noise:	-70 dBc (@ +40 dBmV output level, 5.5 MHz bandwidth)
Impedance:	75 Ω
Return Loss:	14 dB typical
Signal-to-Noise Ratio (SNR):	40 dB typical
MER:	40 dB typical
I/Q Phase Error:	Less than 1 degree
I/Q Amplitude Imbalance:	Less than 1%

IP

Connector(s):	1x RJ45 (Rear-panel)
Standard:	100/1000Base-T Ethernet
TS Bit Rate:	Variable (user-selectable)
UDP/RTP:	Supported (user-selectable)

GENERAL

Mechanical

Dimensions (W x D x H):	8.66 x 9.15 x 1.96 inches (219.9 x 232.41 x 49.784 mm)
Weight:	2 lbs (0.907 kg)
Operating Temperature:	32 to 122 °F (0 to 50 °C)
Storage Temperature:	-13 to 158 °F (-25 to 70 °C)
Operating Humidity:	0 to 95% RH @ 35 °C max, non-condensing
Storage Humidity:	0 to 95% RH @ 35 °C max, non-condensing

Power

Power:	External Power Supply (Input 120VAC; 60Hz / Output 12VDC @ 3 Amp)
Dissipation:	16 W

ALARMS/MONITORING/CONTROL

Local Monitoring:	1x Power LED 1x Status LED
Local Control:	1x IP Reset Button
Remote Monitoring/Control:	GUI-based menu via Web browser (1x RJ45 (rear-panel); 100/1000Base-T, also used for IP output)

Specifications are subject to change without notice or obligation.

Front and Rear Panel Operation

FRONT PANEL DESCRIPTION

(1) IP Reset: When pressed for >10 seconds, the IP address of the control port will be enabled to the default factory IP address (172.16.70.1, **Subnet Mask** 255.255.0.0). The login credentials will also be enabled to the default username **Admin** and password **pass**, which are both case-sensitive.

> *Note: The old IP address, login, and password will still be present in the encoder settings. To clear the reset mode simply reboot the encoder.*

(2) Status LED: indicates the status of input video and audio as follows:

Green = Both Video and Digital Audio inputs are present.

Red = Either the Video or Digital Audio is not present, or internal temperature is too high.

Note: The encoder does not sense analog audio inputs. Therefore, if the Audio is set for Analog, the status indicator will only be valid for video.

(3) Power LED: indicates if the unit is receiving power.

Green = power is detected.

Off = indicates (i) power is not connected, or (ii) power is connected but the power supply or encoder is defective. The unit must be sent to the factory for repair for condition (ii).

Front and Rear Panel Operation
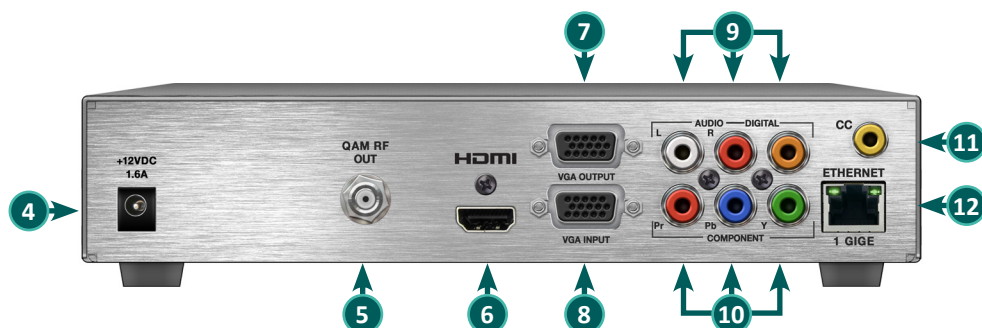
REAR PANEL DESCRIPTION

④ +12VDC, 1.6A: ITE power supply - rated 120VAC; 60Hz / Output 12VDC @ 3 Amp.

⑤ QAM RF Output: "F" Connector for QAM Output.

⑥ HDMI: HDMI connector for unencrypted HDMI input.

> ⚠ **The DSE24A does not accept HDCP-Encrypted HDMI Input.**

⑦ VGA Output: DE-15 female connector for loop-through VGA output.

⑧ VGA Input: DE-15 female connector for VGA input.

⑨ Audio: RCA connectors (marked: L and R) for Analog Left/Right Audio input and RCA connector (marked: DIGITAL) for Digital Audio program input.

⑩ Component Out: RCA connectors (marked: Pr, Pb, Y) for Analog Component Video input. The RCA connector (marked: Y) is also used for Composite Video input.

⑪ CC: RCA connector (marked "CC") for Analog NTSC Closed Captioning (EIA-608, also known as Line 21), which will then be digitized and inserted in the MPEG-2 Transport Stream of the Component, HDMI, and VGA inputs.

⑫ ETHERNET 1 GIGE: RJ45 connector for 100/1000Base-T Ethernet interface for monitoring and configuring the unit. The same interface is used to deliver the IP output. Only static IP address can be assigned to this interface. (Factory Default: "172.16.70.1")

Installation & Setup

Unpacking

You will find the following items in the box:

- DSE24A Encoder (QTY=1)
- Switching Mode Power Supply, 12 VDC, 3.0A (Item: 515132200)
- Cross Link Cable, 7 Ft (Item: 515102875 A)

Installation

The DSE24A encoder is designed for a desk/table top installation. An optional rack panel (stk#1002565A) allows two encoders to be mounted in a 1RU.

You can mount the chassis in a standard EIA, 24 inch (610 mm) deep, enclosed rack. Secure the rack chassis front panel to the rack by inserting four machine screws, with cup washers, through the four mounting holes in the front panel.

When installing units in a headend rack, it is recommended to leave a 1 rack unit space (1.75" high) between units to maximize air flow.

Power-Up

To power up the unit, connect the line cord of the external supply to a 120 VAC outlet.

The "POWER" LED on the front-panel will light green.

Installation & Setup

To begin setup, connect the appropriate input and output video cables and plug in the DSE24A power cable.

ETHERNET ACCESS:

Local or remote communication with the unit is only possible through a GUI-based menu via any standard web browser. **Chrome**, **Firefox** and Internet Explorer 7 (or higher) are recommended. Before you can communicate with the unit you must configure your computer's IP address to conform with your existing IP network or LAN. To do so, follow these steps:

Plug one end of an Ethernet cross cable to the unit's front-panel RJ45 interface marked **"ETHERNET 1 GIGE"**. Plug the other end of the cable to your computer.

1. The following steps explain how to do this for a computer with **Windows 7**, **Windows 8.x** or **Windows 10** operating software:

a) On your computer, navigate to the "Network and Sharing Center".
   (Note: This can be found using the search box in the Start Menu or for Windows 8.x, the Start Screen)

b) Once open, click on "Change Adapter Settings" on left hand side of the window.

c) Right-click on the "Local Area Connection", and then click on the "Properties".

d) A dialog box entitled "Local Area Connection Properties" will appear. In this box, double-click on the "Internet Protocol Version 4 (TCP/IPv4)".

e) A dialog box entitled "Internet Protocol Version 4 (TCP/IPv4) Properties" will appear. Select the "Use the following IP address" option and enter the following addresses:

   IP address: 172.16.70.2
   Subnet mask: 255.255.255.0
   No need to enter a value for the **Default Gateway** for local access.

Click **OK** to close the dialog box. Now your computer is ready to communicate with the unit.

- OR -

2. The following steps explain how to do this for a computer with **Windows XP** operating software:

a) On your computer, open the "Control Panel"

b) Double-click on "Network Connections"

c) Right-click on the "Local Area Connection", and then click on the "properties".

d) A dialog box entitled "Local Area Connection Properties" will appear. In this box, double-click on the "Internet Protocol (TCP/IP)".

e) A dialog box entitled "Internet Protocol (TCP/IP) Properties" will appear. Select the "Use the following IP address" option and enter the following addresses:

   IP address: 172.16.70.2
   Subnet mask: 255.255.255.0
   No need to enter a value for the **Default Gateway** for local access.

Click **OK** to close the dialog box. Now your computer is ready to communicate with the unit.

Unit Configuration

Accessing the Unit via the Web Browser

The user must complete the steps described in "**Installation & Setup**" before proceeding as follows:

1. Open a web browser on your computer (Chrome, Firefox, and IE7+ are recommended) and enter the following URL address **(http://172.16.70.1)**. The "Login" Screen (Figure 1) will appear.
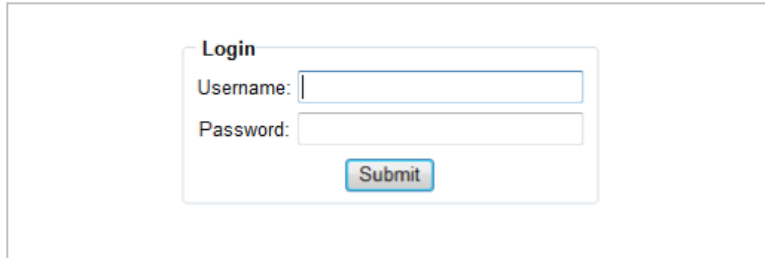
Figure 1 - Login Screen

2. Enter the following case-sensitive factory-default Username and Password, and click on the "Submit" button.

    NOTE: When logged in as Admin, the user has read and write permission. Only one Admin can be logged in at a time. When logged in as Guest, the user has read permission only. Up to four Guests can be logged in simultaneously.

    Username = **Admin** (case-sensitive)
    Password = **pass** (case-sensitive)

    - OR -

    Username = **Guest** (case-sensitive)
    Password = **pass** (case-sensitive)

Monitoring and configuration of the unit is achieved via a series of web pages described in following sections. The following read-only information is displayed in a white "page header" on top of each web page:

ESN: unit's Serial number
Headend name: a user-defined field to make identification easier
Temperature: temperature of unit's chipset
Uptime: time elapsed since last time the unit was turned on
Location: a user-defined field to make identification easier

As shown in Figure 2, under the white "page header" the following Primary tabs will appear:

*   Primary tab **"Main"** (includes sub-tabs: Status, Video, Audio, TS Config, IP, QAM, Output and Refresh.)
*   Primary tab **"Network"** (no sub-tabs)
*   Primary tab **"Time"** (no sub-tabs)
*   Primary tab **"Event Log"** (no sub-tabs)
*   Primary tab **"Logout"** (no sub-tabs, used to log out of the unit)
*   Primary tab **"Admin"** (no sub-tabs)

Each Primary and sub-tab is described in the subsequent Sections

Unit Configuration

Main Tab: Status Screen

The "Main Tab: Status" sub-tab (Figure 2) is a "read only" screen and displays the following information:

Figure 2 - Main Tab: Status Screen

In the section entitled **"TS"** under the orange header, the following parameters about the output are displayed:

① **TS**: indicates the selected program's information. The program information includes the PMT PID, Program number, Short Name, Major-minor channel number, Video elementary stream PID, Video input source, Audio elementary stream PID, and Audio input source.

② **Bitrates:** indicates the transport stream bitrate (see **②** of "Main Tab: Video" section) and the TS Bitrate (see **②** of "Main Tab: TS Config" section).

In the section entitled **"Output"** under the blue header, the following parameters about the output are displayed:

③ **IP:** indicates the encapsulation method, IP address, and the port number to which an output is assigned.

④ **QAM:** indicates the RF channel number of the QAM output.

Unit Configuration

Main Tab: Video Screen

The "Main Tab: Video" sub-tab (Figure 3) is a "user-configurable" screen to select the video encoder parameters for the input program.

Main	Network	Time	Event Log	Logout		Admin

Status	Video	Audio	TS Config	IP	QAM	Output	Refresh

Video Settings

1 → Source: HDMI
2 → Bitrate: 25.00 Mbps
3 → Closed Caption: ○ Disabled ● Enabled
4 → Video Filter Level: On - Level 1
5 → Video Coding Mode: Frame
6 → HDMI Colorspace: YCbCr
7 → GOP Size: 15
8 → Test Pattern: Color Bars

Save

Figure 3 - Main Tab: Video Screen

1 **Source:** allows the user to select the type of video input source. Options are: Composite, Component, VGA, and HDMI.

2 **Bitrate:** user must enter the bitrate for the input video. It is recommended that the bitrate of the input video does not exceed **"TS Bitrate"** selected on the **"Main Tab: TS Config"** screen (see **2** of "Main Tab: TS Config" section).

3 **Closed Caption:** the process of passing the EIA-608 Closed Captioning (CC) information and displaying the CC text on television or other visual display. Options: Enabled and Disabled. (Factory Default: "Disabled")

4 **Video Filter Level:** a two-dimensional low-pass filter controlling the degree of which the input video is filtered. Options are: Off (no filtering), On-Level 1, On-Level 2, On-Level 3, and On-Level 4 (highest filtering coefficient). Level 1 filtering of the video will smoothen the sharp edges of the pixels and produce a softer image. The softer an image, the less number of bits required to encode the image at the quantizer level.

5 **Video Coding Mode:** user must select the Video Coding Mode. Options: Frame and Field. (Factory Default: "Frame")

6 **HDMI Colorspace:** allows the user to select the color space of HDMI input source. Options: RGB and YCbCr. (Factory Default: "RGB")

> **NOTE:** If the displayed pictures are very green or violet in color, it is a good indication that this setting is incorrect.

⚠ **Option 6 will be available only if "HDMI" is selected in 1 above.**

7 **GOP Size:** the length between I-frames is known as the group of pictures (GOP) size. The range is 1 to 120 with 1 I-frame for every 14 non-I-frames. (Factory Default: "15")

8 **Test Pattern:** the video pattern that will be inserted into the transport stream if no input video is detected. Options: Color Bars, Black Screen, Blue Screen, and Red Screen.

⚠ **Remember to click on the SAVE button to apply the new values/configurations.**

Unit Configuration

Main Tab: Audio Screen

The "Main Tab: Audio" sub-tab (Figure 4) is a "user-configurable" screen where the following parameters associated with the Dolby® Digital encoded stereo audio are configured and displayed for the audio input under a green header:

Figure 4 - Main Tab: Audio Screen

1   **Source:** allows the user to select the type of audio input source. Options: Analog, Digital, and HDMI.

2   **Data Rate:** allows the user to select the audio encoding bitrate in kbps (kilobits per second). The range is 96 to 448 kbps. (Factory Default: 192 kbps, which supports Audio Coding Mode 2/0:L, R)

3   **Delay:** allows the user to adjust the audio delay (-300 to 300 ms) to correct for input video/audio sync mismatch.

4   **Sample Rate:** indicates the input sampling rate of the encoder. The unit supports 48 kHz sampling rate.

5   **Audio Coding Mode:** also referred to as Channel mode. Indicates the number of main audio channels within the encoded bitstream and also indicates the channel format. The unit supports 2/0:L,R = audio is a dual channel (Left & Right).

6   **Dialog Normalization:** behaves as an audio Automatic Gain Control (AGC) or Dynamic Range Control (DRC). It has the ability to take different incoming audio levels and normalize them. The ability of the Dialog Normalization depends on the configuration of the Dynamic Range Control. The unit allows you to adjust the normalization from -1 to -31 dB. The typical value is -27 dB. This is based on the standard film audio formats which normally are between -25 and -31 dB.

7   **Dolby Surround Mode:** indicates if the audio is two-channel Dolby or not. Options:

    Unspecified: indicates the decoder must determine the audio format by itself.
    Disabled: indicates the audio is not encoded in surround mode.
    Enabled: indicates the audio is encoded in surround mode.

8   **Line Mode:** allows the user to select the type of Dynamic Range Compression to be applied to signals that will be used as direct audio feeds into a TV tuner or other receive devices. (Factory Default: "None")

Unit Configuration

Main Tab: Audio Screen (continued)

9 **RF Mode:** allows the user to select the type of Dynamic Range Compression to be applied to signals that will be used for retransmission on an RF carrier, and fed into a TV tuner or other receive device(s). (Factory Default: "None")

Options for **8** and **9** are:

i) **None:** no dynamic range controls have been assigned.

ii) **Film Standard:** suitable for movies where the very low-level sounds are not to be amplified due to other undesirable background noises that may become audible, but rather the peaks and valleys are normalized instead. It has a null bandwidth of 10 dB (-31 to -21 dB) and can add up to 6 dB of boost for low levels and attenuate high levels.

iii) **Film Light:** is similar to "Film Standard" but with a null bandwidth of 20 dB (-41 to -21 dB) and can add up to 6 dB of boost for low levels and attenuate high levels.

iv) **Music Standard:** suitable for program content that is mainly made up of music where the sound level is to be normalized (reducing the loudness) to be consistent with other programs. It has a null bandwidth of 10 dB (-31 to-21 dB) and can add up to 12 dB of boost for low levels and attenuate high levels.

v) **Music Light:** similar to "Music Standard" but with a null bandwidth of 20 dB (-41 to -21 dB) and can add up to 12 dB of boost for low levels and attenuate high levels.

vi) **Speech:** suitable for program content that is mainly made up of speech only and has a null band width of 10 dB (-31 to -21 dB) for average speech and can add up to 15 dB of boost for low levels and attenuate high levels.

> **Remember to click on the SAVE button to apply the new values/configurations.**

Main Tab: TS Configuration Screen

The "Main Tab: TS Config" sub-tab (Figure 5) is a "read and write" screen to assign the TS parameters.

Figure 5 - Main Tab: TS Config Screen

In the section entitled **"TS Output Configuration"**, the user can select and configure the following parameters of the output TS:

1 **TS ID:** user must enter the identification number for the Transport Stream (TS) output. The range is 1 to 65535.

Unit Configuration

Main Tab: TS Configuration Screen (continued)

2 **TS Bitrate:** User must enter in the bitrate for the output TS. Options are 19.39 Mbps, 38.8 Mbps (default) and Custom. The Custom TS bitrate can be set from a minimum of the sum of the video and audio bitrates plus TS overhead to a maximum of 38.81070 Mbps. An error message (shown below) will be displayed if the TS bitrate entered does not support the configured audio/video bitrates.

"Error! The total configured Audio/Video bitrates (including TS overhead) exceeds the selected TS bitrate"

3 **Modulation Mode:** allows the user to select the modulation mode. Options are: Reserved, Analog, QAM64, QAM256, 8-VSB, and 16-VSB.

4 **Out of Band:** An out-of-band (OOB) is a channel which is the combination of the forward and reverse OOB channels. When a cable virtual channel is flagged as being out-of-band, it is carried on the out-of-band channel. Options are Enable and Disable. When Enabled, assigns the OOB bit in the TS packet and labels the TS as out-of-band.

> **NOTE:** As per the ATSC and Cable standards, the Modulation Mode and Out-of-Band fields are required to be assigned in the TS packet. Selecting the above two fields would allow the TS packets to be compliant with industry standards, but would not affect the input or output configuration of the unit.

In the section entitled **"Output Mapping"**, the user can select and configure the following parameters for the output TS indicated by **"TS - QAM"** under gray header:

5 **Input:** indicates the program selected by the user. It includes the Input video source, and audio source.

6 **PID:** user must enter the PID value for each stream. PID (Packet Identifier) values are embedded by the content provider in the MPEG-2 stream to identify tables and programming packets.

> **The PID value must be unique in an output stream. If a duplicate PID exists, assign a different PID in the range of 48 to 8176 (recommended range provided by the International Standards)**

7 **Program Number:** user must enter an output program number. The PMT (Program Map Table) provides information for program present in the transport stream such as program_number, and the list of the elementary streams (audio, video or data). The range is 1 to 65535.

8 **Short Name:** user must enter the short name of the channel. Up to 7 alphanumeric characters are allowed.

9 **Major Channel:** user must enter the major channel number for the output program. The range is 1 to 99 for Terrestrial and 1 to 999 for Cable.

10 **Minor Channel:** user may enter minor channel number for the output program. The range is 1 to 99 for Terrestrial and 0 to 999 for cable. NOTE: When zero (0) is entered as a minor channel, it sets the encoder to provide a one part virtual channel number as entered in the major channel field. For example, a major channel of "205" with a minor channel of "0" will be displayed as "205" on a TV. A major channel of "205" with a minor channel of "1" will be displayed on a TV as "205-1".

> **Remember to click on the SAVE button to apply the new values/configurations.**

Unit Configuration

Main Tab: IP Screen

The "Main Tab: IP" sub-tab (Figure 6) is a "read and write" screen to assign IP parameters for the TS:

Main	Network	Time	Event Log	Logout		Admin

Status	Video	Audio	TS Config	IP	QAM	Output	Refresh

IP Output Config

Destination IP	Encapsulation	Destination Port	Source Port	Time to Live	Stuffing
192.168.253.2	UDP ▾	50000	50000	128	Enabled ▾
①	②	③	④	⑤	⑥

Save

Figure 6 - "Main Tab" IP Screen

① **Destination IP:** allows user to assign the IP address of the equipment to which the IP output is streamed to. (Factory Default: "192.168.253.2")

> ⚠ **The Destination IP Address must be present before streaming occurs, otherwise the session is aborted. For Multicast applications, the IP address must be in the range of 244.0.0.0 through 239.255.255.255. For Unicast applications, the IP address must be outside the above-mentioned range.**

② **Encapsulation:** user must select the protocol that matches the protocol used by the receiving equipment. Options are RTP and UDP. (Factory Default: "UDP")

③ **Destination Port**: user must enter the IP Port of the receiving equipment. The range is 1 to 65535. (Factory Default: "50000")

④ **Source Port:** user must enter the IP Port of the equipment that the input IP source is streamed from. The range is 1 to 65535. (Factory Default: "50000")

> **NOTE:** Port number is recommended to be from 49152 to 65535. Reason: Port 1-1023 and 1024-49151 are the Reserved Ports and the Registered Ports, respectively.

⑤ **Time to Live:** is an upper limit on the time that an IP packet can exist in an IP network. The value is set by the sender of the packet, and reduced by every host on the route to packet's final destination. If the Time to Live reaches zero before the packet arrives at its final destination, then the packet is discarded. The purpose of this field is to avoid an undeliverable packet from circulating on an IP network perpetually. The range is 1 to 255. (Factory Default: "128")

⑥ **Stuffing:** Null packets are inserted to ensure that the TS bitrate assigned in **②** of the "Main Tab: TS Config" section remains constant. Options are Enable and Disable. It is advisable to Disable stuffing when only IP output is used to help reduce the traffic on the network.

> ⚠ **Remember to click on the SAVE button to apply the new values/configurations.**

Unit Configuration

Main Tab: QAM Screen

The "Main Tab: QAM" sub-tab (Figure 7) is a "read and write" screen to assign QAM parameters for the TS:

Figure 7 - Main Tab: QAM Screen

① **Output Channel/Frequency:** user must assign an RF channel number to the RF QAM output of the QAM module (i.e. RF channel 70, as shown in Figure 7). The range is CATV channels T7 to T14, 2 to 158.

> ⚠️ **The RF Channel number will be displayed on TV only if the source stream does not carry any virtual channel number**

② **Output Control:** allows the user to turn the RF channel On/Off.

③ **CW Control:** allows the user to switch the QAM output mode to CW (Continuous Waveform) which activates an analog carrier at the selected channel's center frequency; this is typically used in level adjustment of the system.

④ **Final Output Level:** user must select the QAM RF output level for the output. The range is 32 to 42 dBmV. It is recommended to maintain the output level at 40 dBmV for normal operation.

⑤ **Output QAM Mode:** user must select the desired QAM modulation mode. Options are: 64B, 256B, 16A, 32A, 64A, 128A, and 256A. For most applications in the USA, the recommended QAM modulation mode is 256B.

⑥ **Output QAM Map:** user must select the desired QAM Map. Options are STD, IRC, and HRC.

⑦ **Output QAM Data Rate:** indicates the maximum data rate depending on the selected QAM mode, for example 5.3605 Mbaud for QAM 256B.

⑧ **Output QAM Interleaver:** indicates the interleaver value for the QAM mode.

⑨ **QAM Lock State:** indicates whether QAM module is working properly (locked) or not.

> **NOTE:** The module may take a few seconds to lock when QAM output parameters are changed.

> ⚠️ **Remember to click on the SAVE button to apply the new values/configurations.**

Unit Configuration

Main Tab: Output Screen

The "Main Tab: Output" sub-tab (Figure 8) is a "read and write" screen to assign the TS to desired IP, QAM, and ASI outputs:

Figure 8 - Main Tab: Output Screen

In the section entitled **"TS"** under the orange header, the following parameters about the TS are displayed:

1 **TS Mapping:** indicates the program assigned to the TS. The program information includes the PMT PID, Program number, Short Name, Major-minor channel number. For example, under TS [100 (1) (Test) (3-1)] the following information is displayed:

100 - indicates the Program MAP Table (PMT) of the program.

1 - indicates the Program number as assigned in **7** of the "Main Tab: TS Config" section.

Test - indicates the Short Name as assigned in **8** of the "Main Tab: TS Config" section.

3-1 - indicates the Major - minor channel number as assigned in **9** and **10** of the "Main Tab: TS Config" section.

101 V: Component - indicates that the input video source is Component and the elementary stream PID is 101.

102 A: Analog - indicates that the input audio source is Analog and the elementary stream PID is 102.

2 **Bitrates:** indicates the assigned transport stream bitrate (see **2** of the "Main Tab: Video" section for details) and the TS Bitrate (see **2** of the "Main Tab: TS Config" section for details).

In the section entitled **"Output"** under blue header, the following parameters about the output TS are displayed:

3 **IP:** displays the IP address, and the port number to which TS is assigned (see **1** of the "Main Tab: IP" section for details). To disable the IP output, select "None".

4 **QAM:** displays the QAM RF channel number of the QAM output (see **1** of the "Main Tab: QAM" section for details).

> ⚠ **Remember to click on the SAVE button to apply the new values/configurations.**

Unit Configuration

Main Tab: Refresh Tab

The "Main Tab: Refresh Tab" can be clicked while you are on any of the following sub-tabs screens: "Status", "Video", "Audio", "TS Config", "IP", "QAM", and "Output". When clicked, it will update all relevant fields/ parameters of the active screen as that information is retrieved from the unit in a real time basis.

Network Tab

The "Network Tab" (Figure 9) is a "read and write" screen where the following parameters are displayed and configured:

Figure 9 - Network Tab

1 **Ethernet MAC Address:** indicates the MAC Address of the "Remote Control/Data 100/1000" Port.

2 **Software Version:** indicates the software version of the unit.

3 **FPGA Version:** indicates the current hardware version of the unit's FPGA chipset.

4 **QAM Version:** indicates the current software version of the unit's QAM output module.

5 **Hardware Version:** indicates the current hardware version of the unit.

6 **Serial Number:** indicates the unit's serial number.

7 **Headend Name:** a user-defined field to make identification easier.

8 **Location:** another user-defined field to make identification easier.

9 **Login Timeout (Minutes):** indicates the period of time before the unit logs itself out if there is no activity on the web screens. Options are 5, 15, 30, or 60 minutes. (Factory Default: "5" minutes)

10 **Ethernet IP Address:** for details, see **15** of the "Admin Tab" section.

11 **Ethernet Subnet Mask:** for details, see **16** of the "Admin Tab" section.

12 **Ethernet Default Gateway:** for details, see **17** of the "Admin Tab" section.

> **Remember to click on the SAVE button to apply the new values/configurations.**

Admin Tab

Admin Tab Screen

The "Admin Tab" (Figure 10) is a "read and write" screen where the following parameters are displayed and configured:

Figure 10 - Admin Tab Screen

① **Login:** is the Administrator's login (10 characters maximum). This login allows the user to make changes to any area of the unit. Login is case sensitive. (Factory Default: "Admin")

② **Current Password:** is the Administrator's Current Password (10 characters maximum). Password is case sensitive and will not be displayed. (Factory Default: "pass")

Admin Tab

Admin Tab Screen (continued)

3 **New Password:** used only if the user wants to change the current Administrator's password. Must enter a new password (10 characters maximum). Password is case sensitive and will not be displayed.

4 **Confirm New Password:** user must enter the same password as entered in **3** above. If password entered in **3** & **4** does not match, an error will be displayed.

5 **Guest Login:** is the Guest login (10 characters maximum). This login allows the user to view the unit settings but does not allow any changes. Login is case sensitive. (Factory Default: "Guest")

6 **Current Guest Password:** is the Current Guest Password (10 characters maximum). Password is case sensitive and will not be displayed. (Factory Default: "pass")

7 **New Guest Password:** used only if the user wants to change the current Guest password. User must enter a new password (10 characters maximum). Password is case sensitive and will not be displayed.

8 **Confirm Guest Password:** user must enter the same password as entered in **7** above. If password entered in **7** & **8** does not match, an error will be displayed.

9 **Save Configuration Settings:** allows the user to download and save the existing configuration of the unit in a .dat file format.

10 **Default Unit Settings:** Returns all "Main" tabs (with the exception of the "QAM" Tab) to the original settings as shipped from the factory.

11 **Load Settings from File:** Not recommended for basic users. Please consult the factory regarding this function.

> **Choose File:** allows the user to select the desired Config file from any location on the computer to be uploaded to the unit.

> **Load & Apply Configuration Settings:** allows the user to upload a newly created file or update an existing file.

12 **Software/Firmware Update:** Click "Choose File" to select the firmware update file to be applied by "Update Firmware/Software". When update is initiated, an update screen will appear and will display time remaining to complete update. When update is complete, unit will automatically reboot and return to admin screen.

> **Restore Previous Firmware Version:** returns the encoder to the last installed firmware version before the current update.

13 **System Watchdog:** options are "Enabled" and "Disabled". When Enabled, automatically reboots the unit if the operating system stops working. (Factory Default: "Disabled")

14 **System Reboot:** allows the user to reboot the unit.

15 **Ethernet IP Address:** the static IP address that is assigned to the unit. It allows the user to access the unit via the web interface and also receive IP output. (Factory Default: "172.16.70.1")

16 **Ethernet Subnet Mask:** the Subnet Mask address of the unit. It allows the user to access the unit from another network via the web interface. (Factory Default: "255.255.255.0")

17 **Ethernet Default Gateway:** the gateway address of the unit. It allows the user to access the unit from another network via the web interface. (Factory Default: "172.16.70.254")

18 **Event Log Destination:** the IP address of the remote server, to which Syslog sends the activities recorded by the unit for monitoring and troubleshooting purposes. (Factory Default: "172.16.70.2")

19 **Log Destination Port #:** the Error Log Destination port to which a duplicate of the error messages created by the unit can be forwarded for monitoring and troubleshooting purposes. (Unmodifiable Factory Default: "514")

> ⚠ **Remember to click on the SAVE button to apply the new values/configurations.**

Admin Tab

Admin Tab Screen (continued)

(20) **Time Server IP:** is the IP address for the Time Server from where the unit can obtain its clock reference (see the "Time Tab" section for details). (Factory Default: "172.16.70.2")

(21) **Syslog Errors:** is to enable/disable the unit to forward error messages (in red font) to syslog.
(Factory Default: "Disabled")

(22) **Syslog Informational:** is to enable/disable the unit to forward information messages (in blue font) to syslog.
(Factory Default: "Disabled")

(23) **Syslog Feedback:** is to enable/disable the unit to forward feedback or confirmation messages (in green font) to syslog.
(Factory Default: "Disabled")

Time Tab

Time Tab Screen

The "Time Tab" (Figure 11) is a "read and write" screen tthat allows the user to set the current date and time for the unit. To remain compliant with ATSC and cable standards, it is important to have the accurate date and time stamps. For this reason, it is recommended to use the "NTP Server" option which allows the unit to automatically acquire time settings from a "NTP Server". To use this option, you must enter the IP address of the time server (see **20** of the "Admin Tab" section for details).

Figure 11 - Time Tab Screen

1 In the section entitled **"Time Adjustments"**, the local time zone based on Coordinated Universal Time (UTC) can be set.

2 In the section entitled **"Daylight Saving Time"**, the user can set the Daylight Saving Settings either manually or automatically using the DST Adjustment option.

3 In the section entitled **"NTP Server"**, the user can enter the IP address of the NTP server to acquire the time directly from the NTP Server when an internet connection is available.

4 In the section entitled **"Set Date & Time"**, the user can manually enter the date and time.

> **Remember to click on the buttons below the individual sections or the "Apply All Time Settings" button to apply and save the new values/configurations.**

Event Log Tab

Event Log Tab Screen

The "Event Log Tab" (Figure 12) is a "read and write" screen where the following parameters are displayed or configured. The data in Event Log can be forwarded to a SysLog database – (see **21**, **22**, & **23** of the "Admin Tab" section for details). The lines are color coded as follows:

Red font = error message
Blue font = informational message
Green font = confirmation or feedback message

Main	Network	Time	Event Log	Logout		Admin

1 → Event Log Destination: 172.16.70.2
2 → Log Destination Port #:   514
3 → Clear Log
4 → Lines to Display: 1000
Save Event Log File
5 → Save Number of Displayed Lines

Thu Mar 31 10:35:37 2016 : Defaults button press detected. Temporarily using default login/IP information.
Thu Mar 31 10:13:32 2016 : Analog audio selected.
Thu Mar 31 10:13:24 2016 : Power Up or Services Restarted
Thu Mar 31 09:58:16 2016 : A source was detected on Component. (Resolution: 1080i)
Thu Mar 31 09:57:54 2016 : INFO: Post-Install script executed.
Thu Mar 31 09:57:52 2016 : Analog audio selected.
Thu Mar 31 09:57:47 2016 : Unable to read QAM settings for QAM initialization. Loading defaults.
Thu Mar 31 09:57:43 2016 : Power Up or Services Restarted

Figure 12 - "Event Log" Screen

1 **Event Log Destination:** see **18** of the "Admin Tab" section for details.

2 **Log Destination Port #:** see **19** of the "Admin Tab" section for details.

3 **Clear Log:** allows user to clear the records generated during unit's boot-up process and operation afterward. The records are retained if the unit loses power.

4 **Lines to Display:** allows the user to select the number of lines to be displayed. The unit supports up to 400 Mb of data or approximately 65,000 lines. The range is 1 to 65,535.

5 **Save Number of Displayed Lines:** allows the user to save the error log on the screen. Please note that the error log would be saved only on the screen and not on any database.

Appendix

Appendix A: Viewing IP Output on VLC Media Player

To view the IP output from the unit on a VLC Media player in a computer or laptop. The procedure is divided into two steps:

Step 1: Change the IP address of the computer

Step 2: Using the VLC Media Player (http://www.videolan.org/)

NOTE: Step 1 needs to be followed only if a unicast IP address is assigned in the "Destination IP" field on the "Main > IP" screen (see **1** of the "Main Tab: IP" section for details). If multicast IP address is used, then go to Step 2.

Step 1: Change the IP address of the computer

i) Change the IP address of the computer to match the "Destination IP" updated on the "Main > IP" screen (see **1** of the "Main Tab: IP" section for details and see "Communicating with the Unit" on page 11 for instructions to change IP address of a computer).

Step 2: Using the VLC Media Player

i) Open VLC Media Player.

ii) Select **Media → Open Network Stream**.

iii) Under the **"Network Protocol"** field, enter the network address using any one of the formats depending on the "Encapsulation" method selected on the "Main > IP" screen (see **2** of the "Main Tab: IP" section for details):

rtp://@<ip address>:<port no.>
 eg: rtp://@239.10.10.31:50001

or

udp://@<ip address>:<port no.>
 eg: udp://@192.168.253.100:50055

NOTE: For uni-cast, the <ip address> will be the IP address of the computer. For multicast, the <ip address> will be the multicast address assigned under the "Destination IP" on "Main > IP" screen (see **1** of the "Main Tab: IP" section for details).
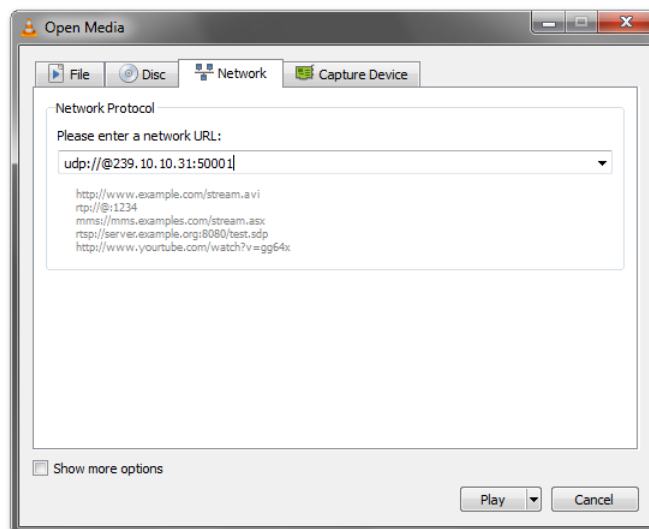
iv) Select Play.

Figure 13 - VLC "Network Protocol" Screen

Notes:

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Notes:

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