

DSE 2 PLUS

Dual HD Digital Encoder with Multiplexed QAM Output

Quick Start Guide



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General Description:

The DSE 2 PLUS encodes up to two uncompressed programs derived from devices with HDMI (non HDCP encrypted), High-Resolution Component Video, Composite or VGA outputs. The DSE 2 PLUS encodes the incoming programs to MPEG2 or MPEG4/H.264 compressed video. An internal multiplexing QAM modulator and low-noise upconverter allows existing legacy fiber/coaxial networks to be used for distribution.

Installation and Mounting:

The DSE 2 Plus is designed to be installed in a standard 19" rack.



Interconnections:

All connections are made on the rear panel.



R1 - RF Output – This type "F" connector is a high level (+29.5 dBmV to +45 dBmV), agile 5 to 1002 MHz, multiplexed output from the DSE2 Plus RF output section.

R2 – DC Power Connector – This connector provides the means for connection to the 5 VDC output of the supplied external power supply.

R3 – Component Input 1 - These three color coded RCA connectors, Cr (red), Cb (blue), and Y (green), provide the means to input component video. To input composite video, use the green 'Y' connector

R4 – VGA Input 1 - This VGA type connector provides the means to input VGA video from a computer or other device with VGA output.

R5 – HDMI Input 1 - This connector provides the means to input HDMI video (without HDCP) with optional embedded audio.

Interconnections:

R6 – Audio Input 1 - These two color coded RCA type connectors provide baseband audio Left (white) and Right (red) inputs to the DSE2 Plus

R7 – Closed Caption Input 1 - This connector provides the means to input closed captioning.
It requires analog composite video that contains closed captioning

R8 – VGA Loop Output 1 - This connector provides VGA video output to a monitor or other equipment requiring VGA input. It is only active when VGA is input on R4.

R9 – Component Input 2 - These three color coded RCA connectors, Cr (red), Cb (blue), and Y (green), provide the means to input component video. To input composite video, use the green 'Y' connector

R10 – VGA Input 2 - This VGA type connector provides the means to input VGA video from a computer or other device with VGA output.

R11 – HDMI Input 2 - This connector provides the means to input HDMI video (without HDCP) with optional embedded audio.

R12 – Audio Input 2 - These two color coded RCA type connectors provide baseband audio Left (white) and Right (red) inputs to the DSE2 Plus **R13 – Closed Caption Input 2** - This connector provides the means to input closed captioning. It requires analog composite video that contains closed captioning.

R14 – VGA Loop Output 2 - This connector provides VGA video output to a monitor or other equipment requiring VGA input. It is only active when VGA is input on R10.

R15 – Status LED – Ethernet Link indicator.

R16 – IP Reset - When pushed and held for about 10 seconds, resets the IP address, Usernames, and Passwords to Factory default values.

R17 – Ethernet Connection - T his connector provides the means to connect the DSE2 Plus to an Ethernet local area network or computer for remote control, monitoring, and/or firmware update. It is not recommended that this port be connected directly to a wide-area network without external access controls, like a VPN or firewall.

Ethernet Access:

Local or remote communication with the unit is only possible through a GUI-based menu via any standard web browser. Before you can communicate with the unit you must configure your computers Local Area Network connection to conform with the DSE 2 Plus default IP of 172.16.70.1. To do so, follow these steps:

Ethernet Access:

Connect an Ethernet cable from your computer to the Ethernet connection on the rear panel of the DSE 2 Plus.

1) 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: 172.16.80.2

Subnet mask: 255.255.255.0

No need to enter a value for the Default Gateway.

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 7 operating software:

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

(b) Click on "Network and Internet"

(c) Click on the "View network status and tasks"

(d) Click on "Change Adapter Settings" on left hand side of the window

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

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

(g) 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: 172.16.80.2

Subnet mask: 255.255.255.0

No need to enter a value for the Default Gateway.

 3) Open a web browser on your computer (Internet Explorer 7 or higher is recommended) and enter the following URL address (http://172.16.80.1). Once the DSE 2 Plus web server has been loaded from your browser, you should see the login dialog (see Figure 1). Enter the username and password and click LOG IN. The default username is "admin" (in lower case letters) and the default password is "pass" (in lower case letters).

Ethernet Access:

	DSE 2 Plus Control Panel	
System Login	Username admin Password eeee LOG IN	

Figure 1: DSE 2 Plus Login Dialog

Once you have successfully logged in to the DSE2 Plus, you will be presented with the status page (see Figure 2).

DR		DSE 2	2 Plus	s Control Panel Logged in as: admin LOG OUT	
Status	Encoders	Channels	Output	Firmware Update	
System Information and Status					
Reference					
DSE 2 Plus Product Information RF Channel Lists					
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Figure 2: DSE 2 Plus Status Tab

Along the top edge of the Status tab page, there are four tabs listed; each tab allows you to view and configure different parts of the DSE 2 Plus. The Status tab gives the overall status of the whole unit, including firmware versions.

Programming:

DR	DSE 2 Plus Control Panel						
Status	Encoders	Channels	Output	Logged in a:	Firmware Update		
Encode	r Configur	otion	- sup at		initial aparts		
Encode	er Conligur	auon	_				
Select Er	icoder Modul	le Encoder 1	•				
Encod	ler Informatio	on					
Module	: Туре			Encoder			
Firmwa	re Version			1			
Video	Settings						
Resolu	tion			1080i @ 60 Hz 💌			
Video	Source			Component 💌			
Video	Encoder Forr	mat		MPEG-2			
Video	Bitrate (Mbps	;)		15.0 -			
Pictur	e Settings						
Bright	ness			2			
Contra	st			3 💌			
Saturat	ion			5 💌			
Hue				4			
Audio	Settings						
Audio	Encoder Forr	mat		AC3 🔽			
Audio	Source			Analog			
Audio	Bitrate			320 kbps 💌			
Audio	nput Limit			10 💌			
Audio	Gain			0 🗸			
L				Rev	ert Apply		

Figure 3: DSE 2 Plus Encoders Tab

The Encoders tab allows you to set each encoder's individual parameters. Select an encoder module from the drop-down menu and the appropriate setting selections will be displayed.

Programming:

DRAK		DSE 2	Plus	s Con	trol Pan	el		
DIGITA	A L TH						Logged in as:	admin LOG OUT
Status Enc	oders C	hannels	Output					Firmware Update
MPEG and	Virtual Cl	hannel N	umber (Configura	ation			
PSIP Mode	e							
PSIP Mode				CVCT	•			
Select the typ	e of VCT or	disable P	SIP data ci	ompletely. (One-part progra	m numbers car	n only be used w	vith a CVCT.
Enable User-	Defined Nu	mbers		~				
PSIP Tables below or syst will be set to	PSIP Tables will either include the user defined MPEG and channel numbers as defined in the channel setup table below or system defaults. When user-defined numbers are disabled, the MPEG number and minor channel number will be set to the encoder ID. The major channel number will reflect the RF output channel.							
Channel S	etup							
	Encoder	MPEC Numb	6 U er P	se One- Part VCN	Major / One-Part Number	Minor Number	Name	
	1	1			3	1	1	
	2	2			4	2	2	
							Show Help	
							Revert	Apply
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Figure 4: DSE 2 Plus Channels Tab

The Channels tab provides an interface to configure the virtual channel mappings for this encoder host. If PSIP is enabled, this page will display a screen that looks like Figure 4; for each encoder output, the MPEG program number can be modified, along with the Major and Minor channel numbers. If one-part virtual channel numbers are desired, the PSIP Mode must be set to CVCT and the Minor number for each channel should be set to 0. The Output tab provides an interface to set all modulator output settings for the unit. A screenshot of this tab is shown in Figure 5.

Programming:

DRAKE DSE 2 Plus	Control Panel	Logged in as: admin LOG OUT
Status Encoders Channels Output		Firmware Update
Output Configuration		
QAM Output		
Firmware Version	None	
RF Output Level (dBmv)	54 💌	
Output Mode	Normal 🔽	
Modulation	QAM-256B 💌	
Interleave Mode	l=128, J=1 ▼	
Symbol Rate (sym/s)	5360600	
Channel Plan	CATV-STD	
Channel Group	3 🔽	
Show Channel Lists		
		Revert Apply
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Figure 5: DSE 2 Plus Output Tab

The Output tab provides an interface to set all modulator output settings for the unit. A screenshot of this tab is shown above.

Firmware Update:

	DSE	2 Plus Contr	ol Panel	Logged in as	s: <u>admin</u> LOG OUT
Status Encoder	s Channels	Output			Firmware Update
2014 @R L Drake Holding	Upload Select firmw Browse Click 'Upload the firmware	are update file No file selected. I' to upload the file and s update	start Upload		

Figure 6: DSE 2 Plus Firmware Update

The Firmware Update tab allows you to update all of the firmware on the unit with a single upload (see Figure 6). Once you have received a new firmware image for the unit, click on the Choose File button and select the provided firmware; click Upload to initiate the update. After a few minutes, The unit will restart with the new firmware. If a power loss occurs during update, the unit will recover automatically – if the firmware upload was not completed, it may be necessary to re-initiate the update process once power is restored.



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