

DIP3200A 32 Program IP to Analog Modulator

User Manual



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Chapter 1 Product Overview

1.1 Key Features

- 2 GE ports (max 64 IP programs total MPTS/SPTS), Max 840Mbps for each GE input
- Support HEVC/H.265, H.264/AVC, MPEG-2 TS Decapsulation
- Processing of up to 32 IP multicast groups of a Gigabit Ethernet MPEG TS into up to 32
- standard NTSC or PAL Analog channels
- 32 non-adjacent or adjacent carriers output within 400MHz bandwidth
- RJ-45 Ethernet front jack for Configuration and Web-based Network management

1.2 Specifications

	Intorfaco/rato	2 GE RJ-45 ports for content ingest			
	Interface/fate	Max 840Mbps for each GE input			
	Stroom	UDP, UDP / RTP, 1-7 packets, FEC, SPTS,			
Input	Stream	MPTS			
	Transport Dratagal	UDP/RTP, unicast and multicast, IGMP			
		V2/V3			
	Packet Length	188 / 204 Bytes			
		HEVC/H.265, H.264/AVC Level 4.1 HP,			
	VILLED COLLECS	MPEG-2 MP@HL			
Decoding	Audio formats supported	MPEG-1/2 Layer 1/2, (HE-)AAC,AC3			
Parameters	Data	Teletext, Teletext subtitles, DVB Subtitling			
		HEVC/H.265:			
	Resolutions	1080@60P ,1080@60I,1080@50P,1080@			
		50I,720@60P,720@50P			

		H.264/AVC:				
		1080@60I,1080@50P,1080@50I,1080@3				
		0P,1080@25P,				
		720@60P,720@50P,576@50I,480@60I				
		MPEG2:				
		1080@601.1080@501.				
		720@60P,720@50P,576@50I,480@60I				
	Aspect ratio	4:3/16:9				
	Number of Output					
	Channels	Up to 32 Analog				
	Connectors	75 ohm F-Female				
	Frequency range	47 – 862 MHz (except 40-120 MHz)				
	Output Bandwidth	400MHz				
	Output level	maximum 52 dBmV				
	Return loss	≥ 14dB				
Modulation						
	Spurious frequency dist.	≥ 60dB				
	Stereo cross talk	> 55dB				
	Residual carrier	1%				
	accuracy					
		NTSC or PAL B-G				
	TV standard					
	Video-signal to noise	≥ 60dB				
	ratio					
	Management	1 x 100 Base-T Ethernet (RJ 45)				
Network	Data	2 x 1000 Base-T Ethernet (RJ 45)				
Interface		IEEE802.3 Ethernet, RTP, ARP, IPv4,				
	Protocol	TCP/UDP, HTTP, IGMPv2/v3				
	Image resolution	up to 1080i				
		60 dB (after internal combining)				
	SNR	> 53 dB (after internal combining)				
Performance	Sampling frequency	48 44 1 32				
	adjustment	0 - 100 %				
		19x16 5x1 75 Inches 420×440×44 5				
	Demission	(WxDxH)				
General	Temperature	32-110 °F (0-45° C)				
Serierar		AC100\/+10% 50/60H7				
	Power Supply	$AC 100 V \pm 10 /0, 50/00 \Pi Z$				
		UI AG ZZUVI IU%,30/000Z				

1.3 Appearance and Illustration

Front Panel Illustration



Rear Panel Illustration:



1	NMS: network management port
2	Power Indicator
3	Grounding/ Earthing connection
4	AC Power Connection (IEC Jack)
5	Power switch
6	Content Input RJ-45 Jacks (2)
7	RF output connector, F Female
8	RF test connector, F Female – Ë€€dB

Chapter 2 Installation Guide

2.1 Grounding

It is recommended that the chassis be grounded using the grounding screw on the rear

2.2 Power cord connection

The power socket is located on the rear panel, and the power switch is next to it.

2.3 Content connection

Use a standard Category 5 or higher Ethernet cable(s) to connect the DIP3200A to your signal source

2.3 Management and web connection

Use a standard Category 5 or higher Ethernet cable to connect the DIP3200A to a network or computer

Chapter 3 Web NMS Management

Setup and management can only be done using the IP network jack on the front panel

3.1 Login

The factory default IP address is 192.168.0.136

Launch the web browser and input the DIP3200A IP address in the browser's address bar and press Enter.

The Login box will appear (Figure-1). Enter the default Username and Password. Both the default Username and Password are "admin" without the ". Then click on Login" to enter the setup screen



Figure-1

3.2.1 Login Screen

When correctly logged in the following screen will appear (Figure-2).



Figure-2

3.2.2 Settings IP Input:

Click "IP Input" on the left side of the screen to set up the input IP's (Figure-3).

Select at the top of the screen which channel you want the program on. CH01 will be the first channel in your output which you will select later when you set up modulation.

Here is where you select the Programs from the inputs on the left and select the outputs selecting the ===> button to add them to the Output area. Here you will see the details of the channel.

DIP3200A		2020-06-25 15:25:17
	P Input CH 01 CH 02 CH 03 CH 04 CH 05 CH 06 CH 07 CH 08 CH 09 CH 10 CH 11 CH 12 CH 13 CH 14 CH 15 CH 16	
seereeks.com Summary > Status Parameters	CH 17 CH 18 CH 20 CH 21 CH 22 CH 23 CH 24 CH 25 CH 26 CH 28 CH 28 <t< td=""><td></td></t<>	
IP Input Modulator Pocoder System Network Account	Retricts Output Imp Program Nutlifier NO0 Imp Program Nutlifier NO0 Imp Program Nutlifier Imp Program Nutlifier NO0 Imp Program Nutlifier Imp Program Nutlifier Imp Program Nutlifier NO0	
Configuration Firmware Log Reboot	Input Area Output Area	
	Price property time out [60] seconds	

Figure-3

Configure 'Input Area' and 'Output Area' with buttons in 'Operation Area'. Instructions are as below:

+ : To add input channel which come from Data1 or Data 2 or Data Module (front panel)

. To edit the input channel

X : To delete the input channel

i : To delete all inputs channel



Refresh Input To refresh the input program information



Refresh Output To refresh the output program information

Select one input program first and click this button to transfer the selected program to the right box to output.



3.2.3 Settings Output: Modulator:

Select "Modulator", to set up the analog output channels (Figure-4) NOTE all your channels must be within a 400 MHz wide bandwidth window. The DIP3200A will not allow you to select a channel beyond the window so make sure your first channel and last channel are no more than 394 MHz apart.

	Modulator											
ner	Center Fre	quency: 207.000 Mi	Hz		Model: NTSC							
uipment, inc.	Level(All C	arriers): -5.0 dBm			Channel Info.(A	ctive/Total): 32/3	2					
		Video Carrier Frequency	Gain offset	Audio Gain	Audio Track	Brightness	Saturability	Contrast	Display Area	Modulation Enable	1	
iry	1	55.250 MHz	0.0 dB	0.0 dB	Right	50	50	50	0	•	1	
s	2	61.250 MHz	0.0 dB	0.0 dB	Right	50	50	50	0	•	2	
ters	3	67.250 MHz	0.0 dB	0.0 dB	Right	50	50	50	0	•	1	
ut	4	77.250 MHz	0.0 dB	0.0 dB	Right	50	50	50	0	•	1	
ter	5	83.250 MHz	0.0 dB	0.0 dB	Right	50	50	50	0		1	
H	6	127.250 MHz	0.0 dB	0.0 dB	Right	50	50	50	0	•	1	
ark	7	175.250 MHz	0.0 dB	0.0 dB	Right	50	50	50	0	•	1	
guration	8	168.250 MHz	0.0 dB	0.0 dB	Right	50	50	50	0		1	
are	9	176.250 MHz	0.0 dB	0.0 dB	Right	50	50	50	0		1	
D	10	184.250 MHz	0.0 dB	0.0 dB	Right	50	50	50	0	•	1	
	11	192.250 MHz	0.0 dB	0.0 dB	Right	50	50	50	0	•	1	
	12	200.250 MHz	0.0 dB	0.0 dB	Right	50	50	50	0		1	
	13	208.250 MHz	0.0 dB	0.0 dB	Right	50	50	50	0	•	1	
	14	216.250 MHz	0.0 dB	0.0 dB	Right	50	50	50	0	•	1	
	15	224.250 MHz	0.0 dB	0.0 dB	Right	50	50	50	0	•	1	
	16	232.250 MHz	0.0 dB	0.0 dB	Right	50	50	50	0	•	1	
	17	240.250 MHz	0.0 dB	0.0 dB	Right	50	50	50	0		1	

Remember to save changes, refer to 3.3.3

The analog output channels are selected based on the picture carrier frequency. Use the Frequency List (Figure 5) to choose the correct frequency for the channel you want. Channel 1 will be the first program you selected on the IP Input and Channel 2 will be the second channel selected and so on.

Channel	Video	Audio
2	55.25	59.75
3	61.25	65.75
4	67.25	71.75
5	77.25	81.75
6	83.25	87.75
95	91.25	95.75
96	97.25	101.75
97	103.25	107.75
98	109.275	113.775
99	115.275	119.775
14	121.263	125.763
15	127.263	131.763
16	133.263	137.763
17	139.25	143.75
18	145.25	149.75
19	151.25	155.75
20	157.25	161.75
21	163.25	167.75
22	169.25	173.75
7	175.25	179.75
8	181.25	185.75
9	187.25	191.75
10	193.25	197.75
11	199.25	203.75
12	205.25	209.75
13	211.25	215.75
23	217.25	221.75
24	223.25	227.75
25	229.263	233.763
26	235.263	239.763
27	241.263	245.763
28	247.263	251.763
29	253.263	257.763
30	259.263	263.763
31	265.263	269.763
32	2/1.263	2/5./63
33	211.263	281.763
34 25	283.263	287.763
35	289.263	293.763
30	295.263	299.763
31 20	301.263	305./63
<u>ა</u> ბ	307.263	311./03
39	313.203	317.703
40	319.263	323.763
41	325.263	329.763

Channel	Video	Audio
42	331.275	335.775
43	337.263	341.763
44	343.263	347.763
45	349.263	353.763
46	355.263	359.763
47	361.263	365.763
48	367.263	371.763
49	373.263	377.763
50	379.263	383.763
51	385.263	389.763
52	391.263	395.763
53	397.263	401.763
54	403.25	407.75
55	409.25	413.75
56	415.25	419.75
57	421.25	425.75
58	427.25	431.75
59	433.25	437.75
60	439.25	443.75
61	445.25	449.75
62	451.25	455.75
63	457.25	461.75
64	463.25	467.75
65	469.25	473.75
66	475.25	479.75
67	481.25	485.75
68	487.25	491.75
69	493.25	497.75
70	499.25	503.75
71	505.25	509.75
72	511.25	515.75
73	517.25	521.75
74	523.25	527.75
75	529.25	533.75
76	535.25	539.75
77	541.25	545.75
78	547.25	551.75
79	553.25	557.75
80	559.25	563.75
81	565.25	569.75
82	571.25	575.75
83	577.25	581.75
84	583.25	587.75
85	589.25	593.75
86	595.25	599.75

Channel	Video	Audio
87	601.25	605.75
88	607.25	611.75
89	613.25	617.75
90	619.25	623.75
91	625.25	629.75
92	631.25	635.75
93	637.25	641.75
94	643.25	647.75
100	649.25	653.75
101	655.25	659.75
102	661.25	665.75
103	667.25	671.75
104	673.25	677.75
105	679.25	683.75
106	685.25	689.75
107	691.25	695.75
108	697.25	701.75
109	703.25	707.75
110	709.25	713.75
111	715.25	719.75
112	721.25	725.75
113	727.25	731.75
114	733.25	737.75
115	739.25	743.75
116	745.25	749.75
117	751.25	755.75
118	757.25	761.75
119	763.25	767.75
120	769.25	773.75
121	775.25	779.75
122	781.25	785.75
123	787.25	791.75
124	793.25	797.75
125	799.25	803.75
126	805.25	809.75
127	811.25	815.75
128	817.25	821.75
129	823.25	827.75
130	829.25	833.75
131	835.25	839.75
132	841.25	845.75
133	847.25	851.75
134	853.25	857.75
135	859.25	863.75

Figure-5

3.2.4 Settings \rightarrow **Decoder:**

This function is to monitor status of decoding. It displays the interface as (Figure-6).

۱.					
	Decoder				
ner			Program Name	Decode Version	Decode Status
e equipment, inc. onercable.com		1		02.03.07	•
		2	NONE	02.03.07	•
imary		3	NONE	02.03.07	•
atus		4	NONE	02.03.07	•
ameters		5	NONE	02.03.07	•
P Input		6	NONE	02.03.07	•
Adulator Decoder		7	NONE	02.03.07	•
tem		8	NONE	02.03.07	•
Network		9	NONE	02.03.07	•
count		10	NONE	02.03.07	•
mware		11	NONE	02.03.07	•
eboot		12	NONE	02.03.07	•
		13	NONE	02.03.07	•
		14	NONE	02.03.07	•
		15	NONE	02.03.07	•
		16	NONE	02.03.07	•
		17	NONE	02.03.07	•
		18	NONE	02.03.07	•
		19	NONE	02.03.07	•
		20	NONE	02.02.07	

3.3 System

3.3.1 Network:

Click 'Network', it displays the interface as (Figure-7) where to set network parameters.

3200A				
welcome to us				
	Network			
mor l				
	NMS		To provide LD import	
tonercable.com		IP Address: 192.168.0.136		
		Subnet Mask: 255.255.255.0	address	
		Gateway: 192.168.100.1	audress	
nmary		Web Manage Port: 80		
itatus		MAC Address: 20.61.32.0a.06.38		
ameters				_
P Input				Apply
Iodulator				
ecoder	DATA-1			
tem		IP Address: 192, 168, 10, 62	Set data nort IP	
letwork .		Subnet Mask: 255.255.255.0	oor data por n	
ccount		Gateway: 192.168.10.1	7	
onfiguration		MAC Address: 20:71.32:0a:06:38		
.og				
teboot			/	Apply
		/		
	DATA-2			
		IP Address: 192,168,10,63		
		Subnet Mask: 255 255 255 0		
		Gateway: 192 168 10 1		
		MAC Address: 20.81.32.0a.06.38		
				Apply
				and a second sec

Figure-7

3.3.2 Account:

Click "Account", it displays the screen as (Figure-8) where you can change login username and password for the web interface.

DIP3200A		
nt		2020-06-25
THE REPORT OF TH	Account It is required to login the web interface of the device in case it need modify Username and Password. The default Username and Password is "admin".	
Summary Status Parameters I Draput Modulator	Current Username: admin Current Password:	
► Decoder	Appr	
System Network Configuration Configuration Finnware Log Reboot		
	Figure-8	

3.3.3 Configuration:

Click "Configuration", it displays the screen as (Figure-9) where to set your configurations for the DIP3200A.

Configuration
When you change the parameter you should save configuration otherwise the new configuration will lost after reboot.
ers Bave
4 dor er
k H Juration Re
Figure-9

Remember to save changes, refer to 3.3.3

System → Firmware:

Click "Firmware", it displays the screen as (Figure-10) where to update firmware for the device.

DIP3200A	
ment	
	Firmware
Conceptioners inc. Energipment inc. Energipment inc.	Warning 1. Upgrade firmware(software and handware) to get new function, please choose the right firmware to upgrade. If you use a wrong file, the device may not work. 2. Upgrade will keep a long time please do not turn off the power, otherwise the device will not work. 3. Do not operate the page during the upgrade process. 4. After upgrade, you must reboot device manually.
Status Parameters IP Input Modulator	Current Software Version: 2.44 Build 158.00 Jun 6 2020 CPU And Decoding Upgrade: Choose File No file chosen
► Decoder	Upgrade
Network Account Configuration Firmware	Current Hardware Version: 1.7.0 FPGA Upgrade: Choose File No file chosen
► Log ► Reboot	Upgade

Figure-10

System → Log:

Click "Log", it displays the screen as (Figure-11) where to check the "Log".

То	select "Kernel Log" and "System Log"	2020-
TENER colle equipment, Inc. toneresble.com	Log Log Type: System Log V Auto Refresh (0 V Expert Chear tog) [1979] [01-00 Gystem Log	
Summary Status	11970001-000015[] device and/ create_device 11970010-000015[] device info] all driver done 11970010-000015[] device info] all driver done 11970010-000015[] dev_ment debug] dexit; -0x2500 gsicchip0 11970010-000015[] dev_ment debug] exist dev men - 0x45cc0000-0x40000	
Parameters IP Input Modulator Decoder	FPGA Information: 0 [Vaid Chamtel = 22] [Scramb Enable = 0] [PCRK Mode = 0] [MuxVOD Mode = 0]	
Network Account Configuration Firmware Log Reboot	IISPO010-000.71/liu.uint millioemissä uscessiga IISPO010-000.02/liu.uint millioemissä uscessiga	
	[19700101-00.0027] wdp.imb/webserve start.ok [19700101-00.0027] wdp.imb/webserve start.ok (def after web_title: DIP3200A def after web_title: DIP3200A (def after web_title: DIP3200A [19700101-00.0027] (19700101-00.0027] wmlot midle==taskk.tt 10 = system_config (19700101-00.0027] (ewmod detag] device_register_module==b_g.treat_mput (19700101-00.0027] (ewmod detag] device_register_module==b_g.treat_mput (19700101-00.0027] (ewmod detag] device_register_module==b_g.treat_mput (19700101-00.0027] (ewmod detag] device_register_module=b_g.treat_mput	
	(19700101-000027)] devmod debug] device, register_modulemodulator (19700101-000027) devimodulativ avaning read tipas type not match selected typa type: 2 - 7 (19700101-000027) modulativ type: UVDRC-2 - 92 (19700101-000027) devimod edbug] device, register_moduleS_mux (19700101-000027) devimod redeval] device, register_moduleS_mux	

Figure-11

System → Reboot:

Dersone von der Standen von de

Click "Reboot", it displays the screen as (Figure-12) where to check the "Reboot".

Precautions

- · Do not install in an environment that exceeds 110 degrees F.
- When installing in a rack make sure there is one full empty rack space above and below the unit.
- Install where there is good ventilation, do not install in a dusty environment such as a laundry.
- Make sure the electrical outlet is the correct voltage.
- · Make sure all connections are tight and installed properly.
- Make sure that there are not power issues. If the power switches on and off quicker than 10 second intervals, this could cause damage to the unit. Unplug the unit and wait for the power problem to be corrected.
- · Check to make sure the top ventilation opening is not obstructed in any way.