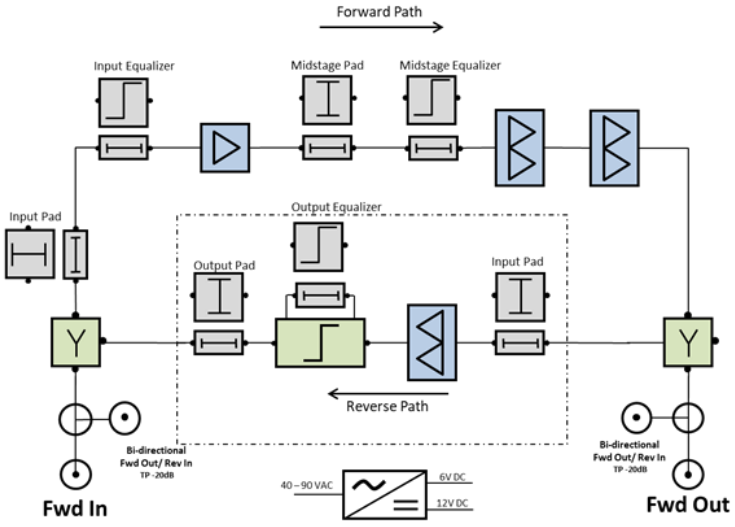
TDA40D31-1200 2 Way Broadband Amplifier for DOCSIS 3.1 RF System

5-1220 MHz, 40 dB Gain



- Fully meets the requirements of DOCSIS 3.1.
- Downstream frequency bandwidth can reach up to 1220 MHz.
- The amplifier comes stock with standard 42/54 MHz split and can be upgraded to 85/102 MHz or 204/258 MHz split with plug in diplex filter kits.
- GaAs-Fet Push Pull technology providing superior distortion performance and low noise.
- Powering options as 14-16 VDC external power supply
- Universal JXP style pads are used for both attenuator and equalizer functions as technician friendly controllers.
- Surge protected to 6kV on all ports.
- -20dB external test points
- Aluminum die-cast housing with superior heat dissipation.

The Toner TDA40D31-1200 Broadband Amplifier is the newest addition to the Toner TDA series of amplifiers.

This amp was specifically designed for the newer DOCSIS 3.1 systems where bandwidth to 1220 MHz is required and several reverse frequency splits are available. Amplifier comes with a fully upgradable configuration from 42/54, 85/102 and 204/258 by simply exchanging the diplex filter sets- future proofing upstream bandwidth requirements.

This broadband DOCSIS 3.1 amplifier has 40 dB of forward gain with minimal distortions which is accomplished with the use of GaAs hybrid silicone technology with a 50 dBmV output capability. The amp has a GaAs reverse amp with 24 dB of gain. Both forward and reverse are set using JXP style plug in pads for both gain and output control as well as for equalization. The TDA40D31-1200 is built in a hinged aluminum housing that ensures 100 dB RFI and weather protection to IP54. Powering is by a remote 24 VDC plug in transformer.

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Parameter	Notes	Forward			Forward			Reverse			
Bandwidth	**(1)**	**54-1218**	**105-1218**	**258-1218**	**54-1218**	**105-1218**	**258-1218**	**5-42**	**5-85**	**5-204**	**MHz**
Technology		GaAs						GaAs			
Average Full Gain		38						24	24	22	**dB**
Flatness		<± 1 (max rolloff at 102 MHz is 32 dB)						<± 1			**dB**
Return Loss, IN/OUT		-16 (<1 GHz) / -14 (1 to 1.2 GHz)						-16			**dB**
Test Points, Frw IN/ Rev Out	bidirectional	-20						-20			**dB**
Test Points, Frw OUT/Rev IN	bidirectional	-20						-20			**dB**
Gain Control	JXP plug-in (2)	in / mid						in / out			
Slope Control	JXP plug-in (2), (3), (4)	in / mid						out			
Forward Distortions:	40/50 dBmV output level (77 NTSC analog channels plus 111 equivalent digital SC-256-QAM channels to 1218 MHz)										
CTB	on ch 78	-67									**dBc**
CSO	on ch 78	-69									**dBc**
Xmod	on ch 2	-73									**dBc**
CIN		-57									**dBc**
Forward Distortions:	36/46 dBmV output level (77 NTSC analog channels plus 111 equivalent digital SC-256-QAM channels to 1218 MHz)										
CTB	on ch 78	-83									**dBc**
CSO	on ch 78	-74									**dBc**
Xmod	on ch 2	-80									**dBc**
CIN		-70									**dBc**
Reverse Distortions	52 dBmV flat output, 2 ch according to ANSISCTE1152006										
DTO on 7 MHz								-70			**dBc**
DSO on 6 MHz								-75			**dBc**
Xmod on T10								-66			**dBc**
Noise Figure	with 0 dB jumper							6			**dB**
Recommended RF Input Level	ch 2 (55, 25-58, 83 MHz)	<35									**nsec**
Group Delay	ch 98 (109, 25-112, 83 MHz)										
	ch 15 (259, 25-263, 08 MHz)										
	204-203 MHz							<30			**nsec**
	41-42 MHz										
	84-85 MHz										
	5-6 MHz										
Hum Modulation	-80										**dBc**
RFI Isolation	-100										**dBc**
Surge Withstand	IEEE C62.41-Cat B3, Combination Wave 6KV, 3KA										
Powering	24 VDC Power Supply										**Vac**
Power Consumption	15										**Watts**
Temperature	-30 to +55										**°C**
Enclosure	IP54 category, diecast aluminum										
Weight	2.8 (6.2)										**kg (lb)**
Dimensions	21 x 17 x 9 (7-5/8 x 5-3/8 x 3)										**cm (in)**

(1) Band selection by on-site plug-in diplex filters and plug-in return path equalizers.
(2) Universal JXP type pads. 0 dB jumpers are factory default.
(3) On-board equalizer ciruit on forward path. Slope (dB) is selected via universal JXP style plug-in pads.
(4) Plug-in equalizer board on return path. Slope (dB) is selected via universal JXP style plug-in pads.

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