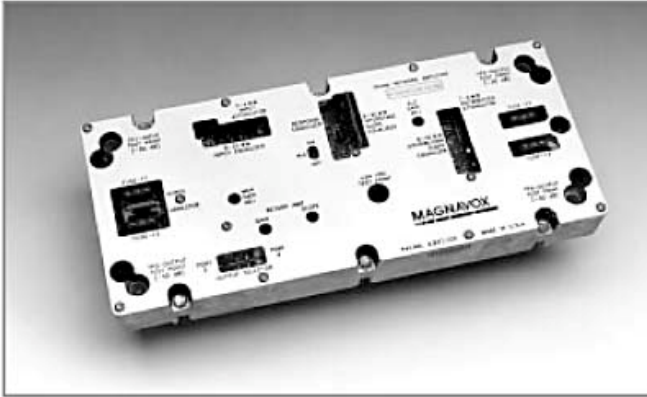


Trunk Network Amplifiers



Spectrum 2000 6-TNA Series

The 6-TNA series trunk network amplifiers amplify, control, and split forward signal in trunk and feeder lines.

- Amplifies and splits signal using fewer active components than the traditional mainstation.
- Internal feeder signal splitting minimizes the need for external splitters, saving money and increasing plant's reliability.
- Power Doubling™ post amplifier hybrids minimize distortion while boosting signal level.
- Accepts return signals when equipped with an optional return amplifier.
- Built-in switched mode power supply efficiently converts AC to DC.

The Magnavox brand trunk network amplifier (TNA) amplifies and controls forward signal from the trunk line and then divides the signal internally into one main or trunk output and either one or two secondary or distribution outputs. You can install TNAs in RF cascades or in Diamond Net optical stations.

All network amplifiers fit into a 1 GHz, 9-NH series housing, which you must order separately. The amplifiers are equipped with an efficient, switched-mode power supply and, if upgraded with a plug-in 4-LER series return amplifier, accept return signals.

All TNAs use push-pull pre-amplifiers and Power

Doubling™ post amplifiers to amplify the signal level. Depending upon the model, trunk network amplifiers provide one or two high level secondary outputs and one main output. All TNAs provide a higher signal level at each secondary output than at the main output.

In addition, because network amplifiers accomplish signal splitting internally, you no longer need to splice external splitters into the cable to distribute the signal, which helps stretch your equipment dollar and increase the reliability of your plant.

The TNA is easy to customize, as well. Each unit accepts a variety of plug-in circuits and accessories

that you can install in the field. See the Ordering Information section for details.

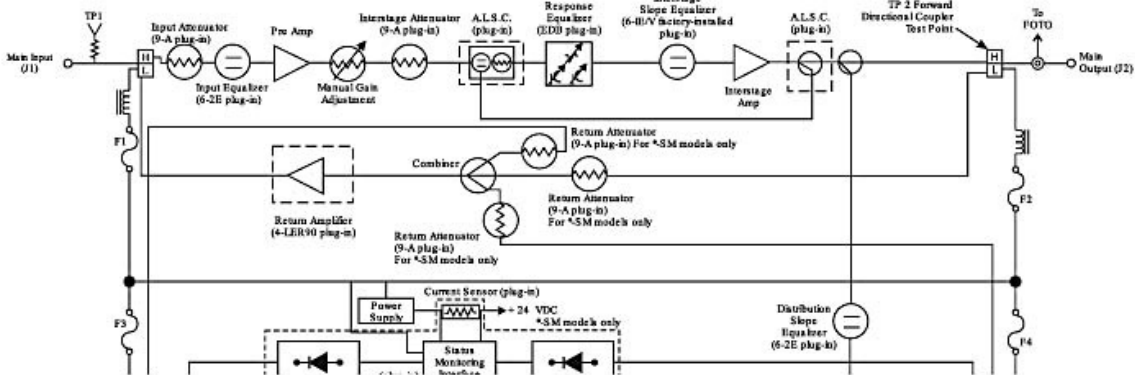
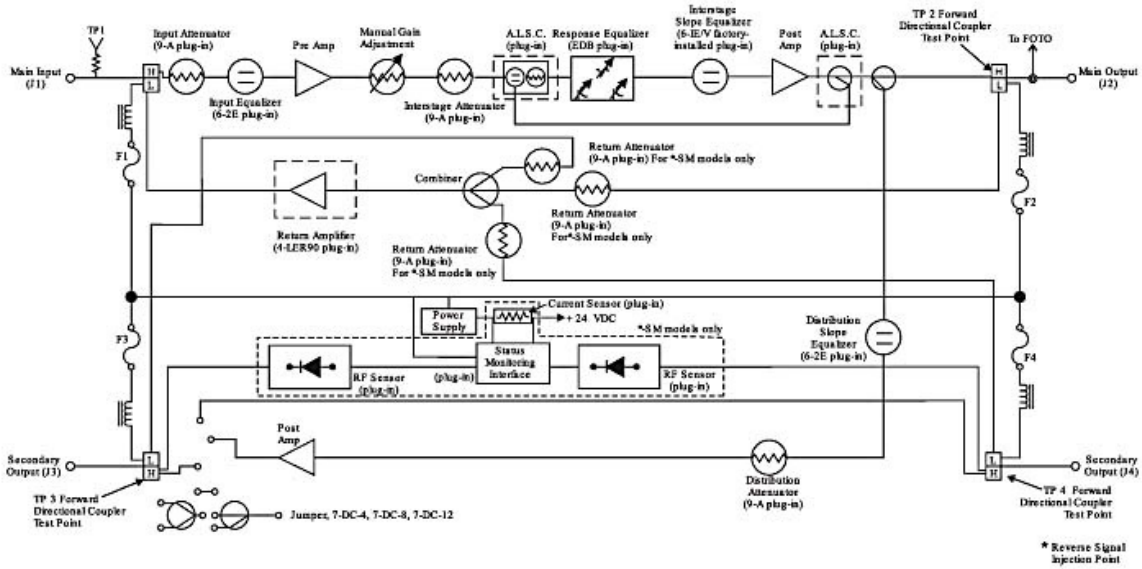
Philips line of 6-TNA series trunk network amplifiers accommodate forward frequencies to 550, 600, 750 or 862 MHz, and come in several bandsplits, as well. Select the model that meets the requirements of your system.

For Diamond Net optical stations, order a "D" model network amplifier module, which comes with a high-output power supply. See the Ordering Information section for more information.



PHILIPS

Trunk Network Amplifiers



Trunk Network Amplifiers

Station Performance*

550 MHz, 32 dB Split

6-TNA395/32

	Notes	Main Output	Secondary Outputs	Units
Bandwidth—Forward and Return		Check the Ordering Information for available bandsplits. For bandsplit-specific information, see page RF Amplifiers - 17.		
Response Flatness (@ operating gain and slope)		± 0.75	± 1.0	dB
Minimum Full Gain (w/6-2E600-0 equalizer)		32	42	dB
Typical Operating Gain—includes 1 dB equalizer loss with ALSC (without ALSC)		24 (31)	34 (41)	dB
Gain Control Range		6	6	dB
Slope Control Range (cable)		Fixed	Fixed	
Return Loss--Forward and Return (75-ohm ref. @ operating gain and slope)		14	14	dB
Distortion at Rated Level (per NCTA test methods; NTSC System M)	a			
Referenced Output Level (lowest forward frequency/50 MHz)		28/36	38/46	dBmV
Number of Analog Channels (NTSC)	b	Check the Ordering Information for available bandsplits.		
26/45, 33/50 and 42/54 Splits		77	77	
50/70 Split		74	74	
65/85 Split		72	72	
Composite Triple Beat with ALSC (without ALSC)	b, c	-74 (-80)	-68 (-68)	dB
Cross Modulation with ALSC (without ALSC)	b, c	-74 (-80)	-68 (-68)	dB
Composite Second Order with ALSC (without ALSC)	c	-70 (-75)	-69 (-68)	dB
DIN 45004B	d	114	120	dBµV
Noise Figure, Full Gain with ALSC (without ALSC)		8 (8.5)	8 (8.5)	dB
<small>For system calculations, add 1 dB for equalizer loss.</small>				
Hum Modulation (@ 7 amps maximum operating current)		-60	-60	dB
AC Bypass Current Damage Limit		15	15	A
AC Power Consumption	e			
One Way Manual			47	W
One Way Automatic			50	W
Two Way Manual			49	W
Two Way Automatic			52	W
AC Current Requirement—60 VAC	f	AC power consumption in watts divided by a factor of 43 = amps required		
AC Current Requirement—90 VAC	f	For ≤ 67 VAC: $1.03 \times$ (AC power consumption in watts divided by voltage) = amps required. For 67-90 VAC: AC power consumption in watts divided by 65 = amps required.		
Overall Dimensions (Length x Width x Height)		12.8 x 5.6 x 3.6 (32.5 x 14.2 x 9.1)		in. (cm)
Weight		4.55 (2.0)		lb (kg)
Plug-in Circuits (Required <input checked="" type="checkbox"/> Optional <input type="checkbox"/> Factory-Installed <input checked="" type="checkbox"/>)				
Input Attenuator			9-A <input checked="" type="checkbox"/>	
Input Equalizer			6-2E550 <input checked="" type="checkbox"/>	
Response Equalizer			EDB/ <input type="checkbox"/>	
Interstage Equalizer			6-IE550*V <input checked="" type="checkbox"/>	
Interstage Attenuator			9-A <input type="checkbox"/>	
Automatic Level and Slope Control (ALSC)			6-ALSC <input type="checkbox"/>	
Distribution Slope Equalizer			6-2E550 <input type="checkbox"/>	
Distribution Attenuators (2 places)			9-A <input type="checkbox"/>	
Return Attenuators (3 places, *-SM models)			9-A <input type="checkbox"/>	

*All specifications are subject to change without notice. Measured in a 9-NH housing at 70°F ambient.

Notes:

- Distortion specifications are typical for system performance calculations; individual module performance may vary.
- For performance using other channel spacing and loading schemes, see "Distortion Conversion Factors for International TV Standards" on page RF Amplifiers-1.
- For station performance of secondary outputs, add main distortions (trunk) to secondary distortions (bridge).
- Intermodulation distortion = -60 dB [DIN 45004B, para. 6.3: 3 tone test].
- To compute power consumption for node applications, add amplifier power consumption to the power consumption figures for the Diamond Net modules found in the Fiber Optics section of this catalog. Station power consumption will vary based on the number of optical modules used.
- Factor based on engineering studies of Philips power supplies.

