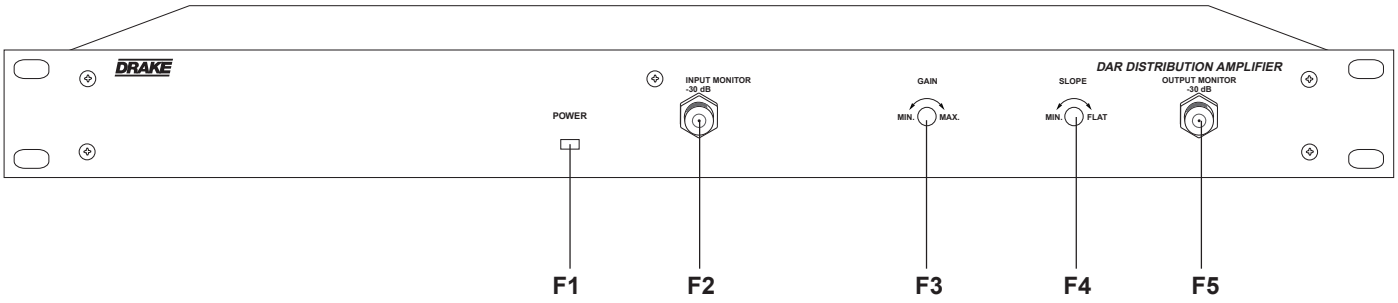
DRAKE® DAR Series Rack Mount Distribution Amplifiers, with Power Doubled Hybrid Output



DESCRIPTION

The R.L. DRAKE models DAR8642, DAR8633, DAR8618, DAR7542, and DAR7533, are broadband distribution amplifiers designed for indoor headend use in both residential and commercial buildings where RF signal distribution in the frequency range of 54 to 860 MHz is required. Each model, except the DAR8618, incorporates a push-pull hybrid input preamp and a power doubled hybrid output amplifier to provide a very low distortion signal for launch amp applications in the output of an SMATV or CATV headend. The Gain and Slope controls both have a range of 10 dB minimum and operate between the preamp hybrid and the output hybrid to maintain a low noise figure over a wide range of gain and slope settings. Only the DAR8618 has a power doubled output hybrid with no input preamp and no adjustable gain and slope controls. All models have a provision for optional fixed input attenuators and equalizers. Double-sided, plated through hole, glass epoxy, printed circuit boards, and SMT are used for low losses and maximum reliability.

All DAR models include a built-in diplexer filter. This allows the return path energy that is present at the output port of the DAR to be separated from the DAR output and passed to the return path output port.

Input and output test connectors are provided for convenient monitoring of the signal path. The amplifier circuitry is designed for maximum stability, low distortion, low noise figure, and is protected in a rugged aluminum housing.

- The unit operates from a nominal 115 VAC, 60 Hz input.

- Input equalizer and fixed attenuator options are available.

F1 - POWER LED

This indicator illuminates when power is supplied to the unit.

F2 - INPUT MONITOR

This connector may be used to monitor input to the DAR. The levels will be 30 dB below the input levels at R3.

F3 - GAIN*

Adjusts the amplifier interstage attenuator.

F4 - SLOPE*

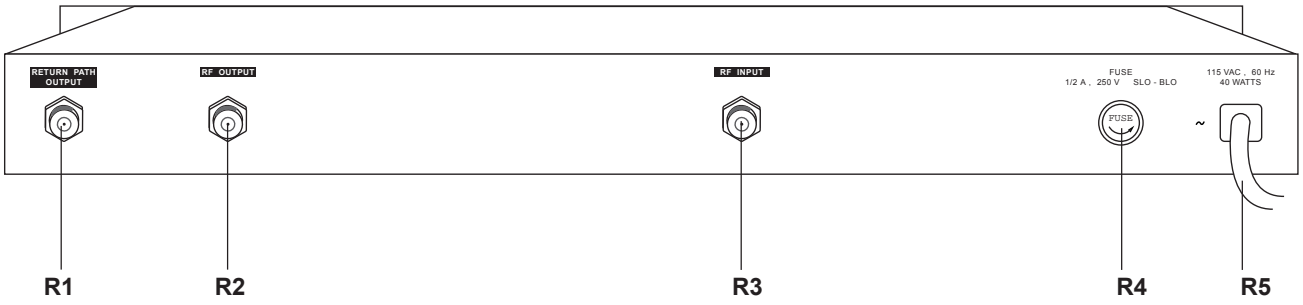
Adjusts the slope of the output signal.

F5 - OUTPUT MONITOR

This connector may be used to monitor the output of the DAR. Levels will be 30 dB below those present at R2. R2 must be terminated in 75 Ohms for an accurate reading.

**Not present on models with gain below 20 dB.*

Rear Panel Connections / Specifications



R1 - RETURN PATH OUTPUT
Any return path signals from 5 to 42 MHz that are present at R2 will be passed to this port.

R2 - RF OUTPUT
This is the RF output for CATV distribution and is the amplified output of channels that are input to port R3 from 54 MHz and higher. At this port, any return path channels from 5 to 42 MHz will be passed at unity gain to port R1.

R3 - RF INPUT
This connector accepts the RF input from a headend combiner output, 54 MHz and higher.

R4 - FUSE
If necessary, replace this fuse only with a fuse of the same indicated rating.

R5 - AC LINE CORD
Connect this line cord to a 115 V / 60 Hz AC power source.

SPECIFICATIONS COMMON TO ALL MODELS (unless otherwise noted)

Forward Gain Adjustment Range:	10 dB minimum (except DAR8618).
Slope Control Adjustment (54 MHz):	10 dB minimum (except DAR8618).
Input/Output Impedances:	75 Ohms.
Input and Output Monitor Ports:	- 30 dB.
Fixed Input Attenuator:	Plug-in (SXP type) available.
Fixed Input Equalizer:	Plug-in (QSA type) available.
Hum Modulation:	- 70 dB.
Frequency Coverage (return port):	5 to 42 MHz.
RF Shielding:	Leakage complies with FCC Part 76.
Power Requirement:	Models DAR7533, 7542, 8633, 8642 - 115 VAC, 60 Hz, 24 Watts; Model DAR8618 - 115 VAC, 60 Hz, 18 Watts.
Operating Temperature Range:	- 20 deg. to + 60 deg. C.
Size:	19.00" (48.3 cm) W x 7.5" (19.1 cm) D x 1.75" (4.5 cm) H.
Weight:	6 lbs. 4 oz. (2.9 Kg).

ADDITIONAL SPECIFICATIONS FOR SPECIFIC MODELS

	DAR7533	DAR7542	DAR8633	DAR8642	DAR8618
Frequency Coverage (forward path):	54 to 750 MHz.	54 to 750 MHz.	54 to 860 MHz.	54 to 860 MHz.	54 to 860 MHz.
Forward Gain:	33 dB.	42 dB.	33 dB.	42 dB.	18 dB.
Noise Figure:	7 dB maximum.	6.5 dB maximum.	7.5 dB maximum.	7 dB maximum.	7.5 dB maximum.
Return Loss, Input & Output:	14 dB.	14 dB.	14 dB.	14 dB.	14 dB.
Channel Loading:	110 CH.	110 CH.	129 CH.	129 CH.	129 CH.
Output Level (maximum per channel for distortions listed below):	+44 dBmV.	+44 dBmV.	+40 dBmV.	+40 dBmV.	+40 dBmV.
Input Level (maximum without using fixed input attenuator):	+20 dBmV.	+10 dBmV.	+18 dBmV.	+7 dBmV.	+22 dBmV.
Optimum Input Level Range for Best Performance:	+10 dBmV to +15 dBmV.	+0 dBmV to +5 dBmV.	+7 dBmV to +12 dBmV.	-3 dBmV to +2 dBmV.	N/A
Nonlinear Distortions-					
Composite Triple Beat:	- 58 dB.	- 58 dB.	- 60 dB.	- 60 dB.	- 61 dB.
Composite Second Order:	- 58 dB.	- 58 dB.	- 60 dB.	- 60 dB.	- 60 dB.
Cross-modulation:	- 60 dB.	- 60 dB.	- 64 dB.	- 64 dB.	- 68 dB.