

# SMART COM 150 HEAD END RNG-H12, RNG-H36



Varis' Smart Com 150 Head End (HE) is the interface between Base Station equipment such as Repeaters and the Smart Com 150/150IS Leaky Feeder network. Head End units have a pre-amplifier which compensates for the splitting losses in the Head End and performs system Automatic Gain Control (AGC). The Head End unit also injects DC power onto the Leaky Feeder cable to power Smart Com 150 Line amplifiers located near the basestation.



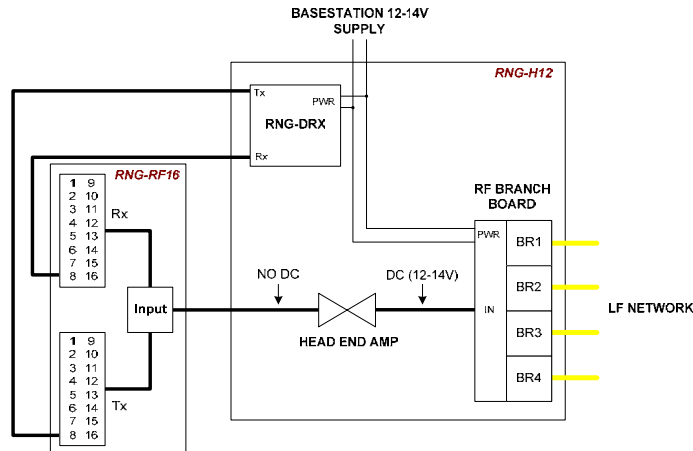
RNG-Hxx Head End

## Product Specifications

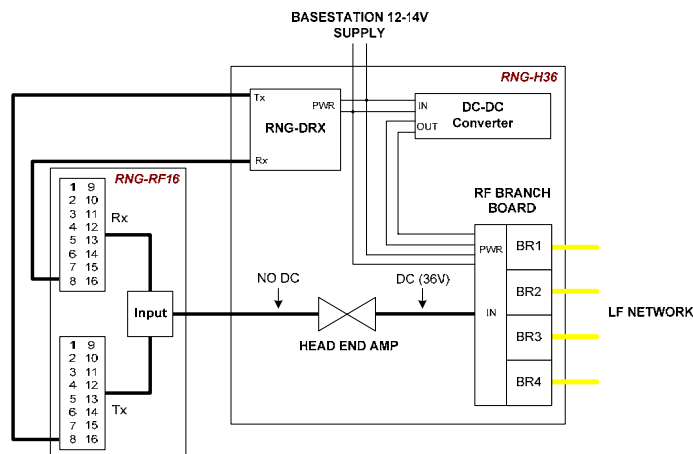
	12V HEAD END	36V HEAD END
Part Number	RNG-H12	RNG-H36
<b>Physical</b>		
Construction	RNG-Hxx: Rack mount enclosure RNG-RF16: Rack mount panel	
Enclosure	RNG-Hxx: 19" 3U, Steel enclosure RNG-RF16: 19", 3U, Aluminum panel	
Dimensions (W x H x D)	RNG-Hxx: 19 x 5.2 x 14 in (483 x 132 x 356 mm) RNG-RF16: 19 x 5.2 x 1.8 in (483 x 132 x 46 mm)	
Weight (nominal)	RNG-H12: 6.35 kg (14 lbs)	RNG-H36: 7.71 kg (17 lbs)
Connectors	RNG-RF16: 1.35 kg (3 lbs) BR1→BR4: Three terminal lug connectors RNG-RF16: BNC jack connectors RNG-DRX: BNC jack connectors Head End Amp: BNC jack connector Basestation Power: 16 AWG Bare Lead Wire	
<b>Environmental</b>		
Temperature Range	-20 to +60° C (-4 to +140 °F)	
<b>Electrical</b>		
Input Voltage	12-14 VDC	
Output Voltage	12-14 VDC	36 VDC
Current Consumption (nominal)	600 mA	1 A
DC Blocking	Jumper select on BR1→BR4	
DC Current Limiting	BR1→BR4 at 2.5 A	
<b>RF Characteristics</b>		
Impedance	BR1→BR4: 75 ohm Head End Amp: 75 ohm RNG-RF16 Input: 75 ohm RNG-RF16 Outputs (16 Rx/Tx): 50 ohm RNG-DRX Tx, Rx Ports: 50 ohm	
Leaky Cable Types	Varis RNG-500, Varis RNG-501	
<b>Downstream</b>		
Individual Losses/Gains (nominal)	RNG-RF16: 23 dB loss Head End Amp: 10→25 dB gain RF Branch Board: 10 dB loss	
IL Range (nominal)	23 → 8 dB	
Bandwidth (3 dB)	15 MHz	
3 dB Bandpass	145 → 160 MHz	
3 <sup>rd</sup> Order Intermod free	16 Voice/Data, 8 Video (2 per main branch)	
Channel Capacity		
Ethernet Bandpass	6.0 MHz	
Ethernet Center Frequency	153 MHz	

DOCSIS 2.0 data rate	54 Mbps
Third Order Intercept (3IP)	+31 dBm
<b>Upstream</b>	
Individual Losses/Gains (nominal)	RNG-RF16: 23 dB loss Head End Amp: 10→19 dB gain RF Branch Board: 10 dB loss
IL Range (nominal)	23 → 14 dB
Bandwidth (3 dB)	15 MHz
3 dB Bandpass	170 → 185 MHz
Ethernet Bandpass	6.4 MHz
DOCSIS 2.0 data rate	41 Mbps
Third Order Intercept (3IP)	+29 dBm
<b>Diagnostics</b>	
<b>Amplifier</b>	
Green LED	Power On, RF Level OK
Red LED	Power On, RF Level Low
Yellow LED	Power On, RF Level High
<b>RF Branch Board</b>	
BR1→BR4, Green LED	DC Power OK
BR1→BR4, Red LED	Branch Shorted
<b>Approvals</b>	
Intrinsic Safety	No
CE Certification	Pending

**Hardware Overview**

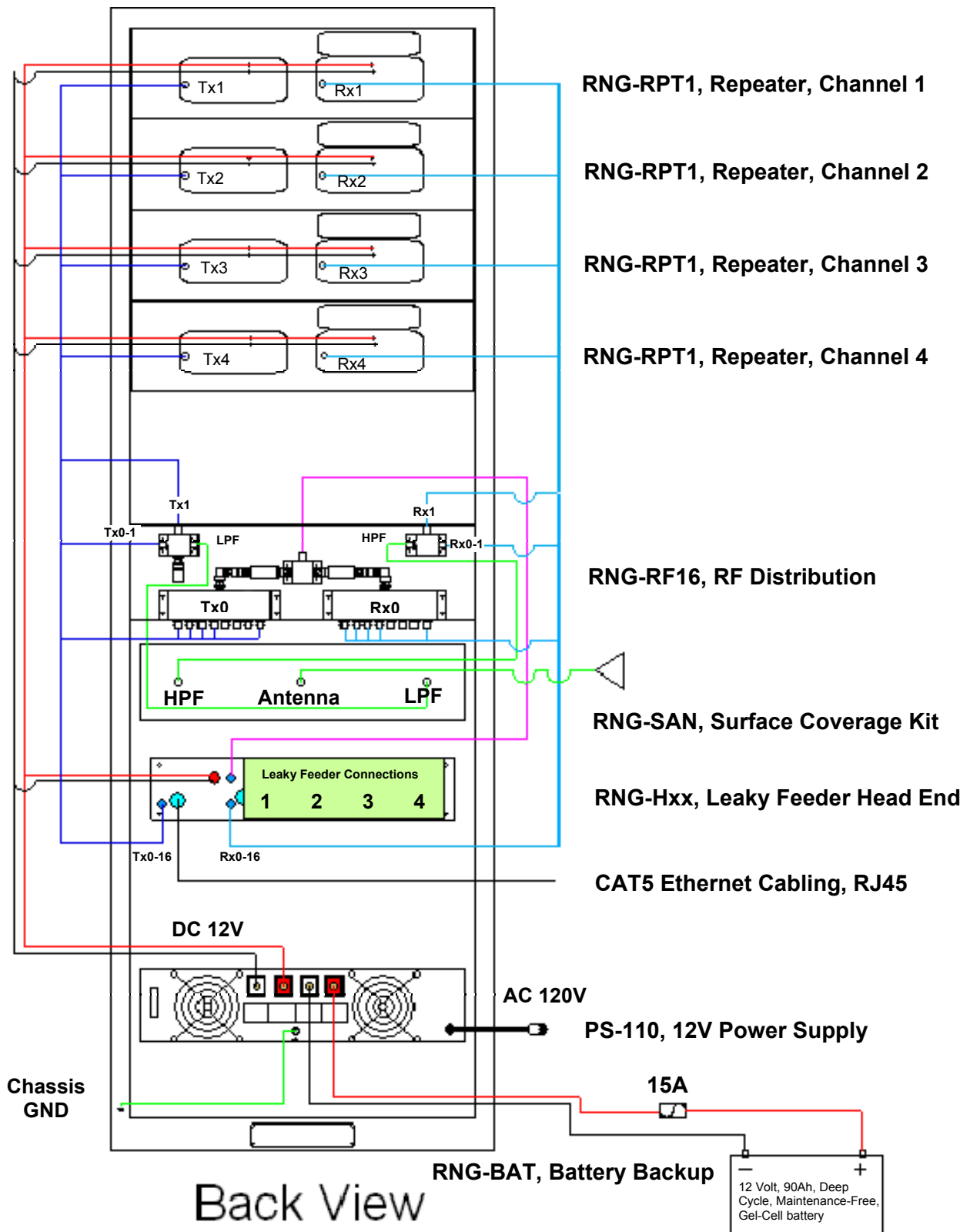


*RNG-H12 Head End Wiring*



*RNG-H36 Head End Wiring*

**Installation**



*Basestation Wiring Diagram*