

## CXE160 HOUSE DISTRIBUTION AMPLIFIER



The CXE160 is a compact distribution amplifier. It can be used in house amplifier use as well as in line use with remote powering. There is no need for separate plug-in modules, because diplex filters, return amplifier and adjustments are built-in.

### Features

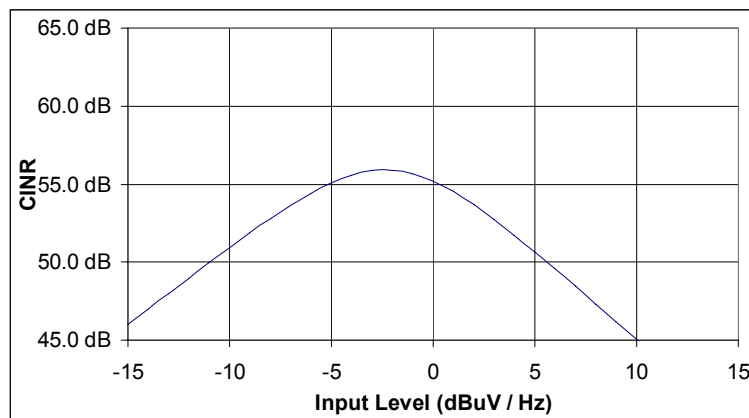
- GaAs pHEMT and FET gain technology
- High US gain
- Mid-stage gain selection
- Low power dissipation
- Input / output test points
- Enhanced surge and ESD protection
- Flat / sloped output selection
- Flexible ordering system

**Technical specifications**

Parameter	Specification	Note
<b>Downstream signal path</b>		
Frequency range	85...1006 MHz	
Return loss	18 dB	1)
Gain	40.0 / 32.0 dB	2)
Input attenuator control range	0...-18 dB	
Input equaliser control range	0...18 dB	
Mid-stage slope	8 / 0 dB	
Mid-stage gain selection	0 / -8 dB	
Flatness	± 0.5 dB	3)
Test points	20 dB	4)
Group delay	2 ns	5)
Noise figure (high gain / low gain)	5.0 / 5.5 dB	6)
CTB 41 channels	108.5 dB $\mu$ V	7)
CSO 41 channels	108.0 dB $\mu$ V	7)
XMOD 41 channels	103.5 dB $\mu$ V	7)
CTB 105 / 72 channels	57.0 / 65.0 dB	8)
CSO 105 / 72 channels	59.0 / 64.0 dB	8)
XMOD 105 / 72 channels	54.0 / 60.0 dB	8)
<b>Upstream signal path</b>		
Frequency range	5...65 MHz	
Return loss	18 dB	
Gain	29.0 dB	
Gain control range (output)	0...-15 dB	
Gain control range (input)	0 / -10 dB	
Slope control range	0...9 dB	
Flatness	± 0.75 dB	
Noise figure	4.8 dB	
Output level, DIN 45004B	116.0 dBuV	
Output level, 2 <sup>nd</sup> order distortion - 60 dB	106.0 dBuV	
CINR	> 56 dBc	9)
<b>General</b>		
Hum modulation	70 dB	10)
Maximum current feed through	3.0 A / port	11)
Supply voltage	26...65 VAC / 180...255 VAC	
Power consumption	9.5 W	
Input / Output connectors	PG11 (several adaptors available)	
Test point connector	F- female	
Dimensions	182 (210) x 140 (148) x 84 mm	
Weight	1.5 kg	
Operating temp	-40...+55 °C	
Class of enclosure	IP 54	
EMC compatibility	EN 60728 -2	
Safety	EN 60728 -11	
ESD	4 kV	12)
Surge	4 kV	13)

## Notes

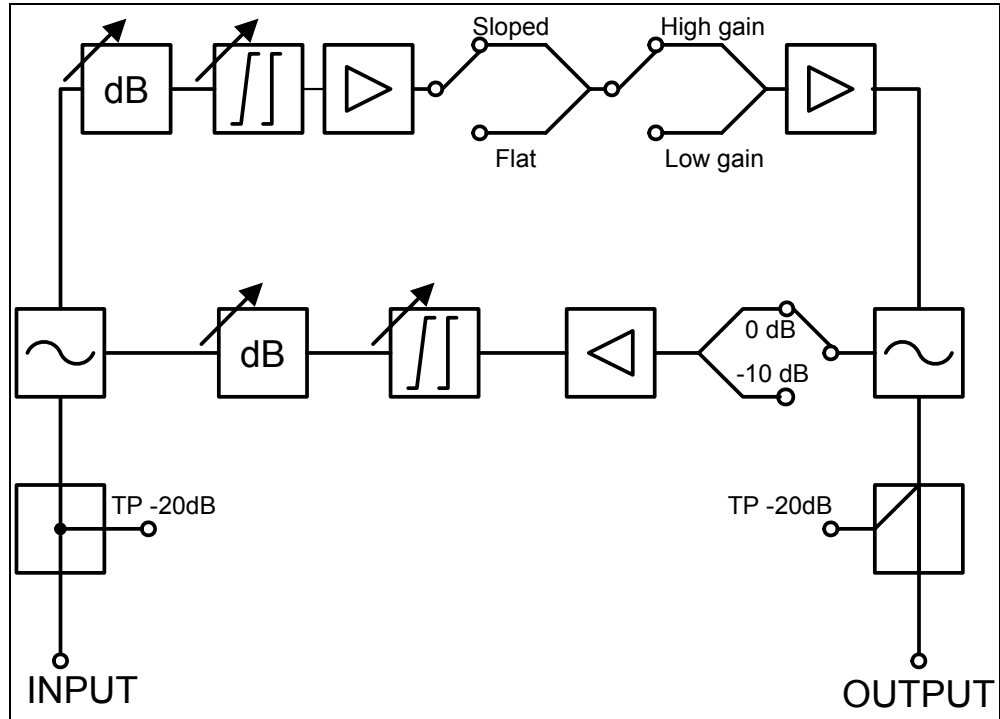
- 1) The limiting curve is defined at 40 MHz -1.5 dB / octave.
- 2) This is the nominal gain at 1006 MHz. Guaranteed minimum gain is 38.5 dB.
- 3) Typical value. The guaranteed value is  $\pm 0.8$  dB
- 4) Output TP is from a directional coupler and has a  $\pm 1.0$  dB tolerance. The output test point can be used as an injection point for return path test signal. Input TP is a 2-way element and has a tolerance of  $\pm 2.0$  dB.
- 5) Typical value for 4.43 MHz band , when  $f > 120$  MHz.
- 6) Typical value. Guaranteed value is 1.0 dB worse.
- 7) According to EN50083-3. Amplifier output was 8 dB cable equivalent sloped. All results are typical values in room temperature, which can be used in system calculations. XMOD is measured at the lowest channel. These values can be used in both gain modes.  
The highest recommended output level for the amplifier is 109.0 dB $\mu$ V with 41 channels.
- 8) Measured with 72 and 105 NTSC channels. Amplifier output was 11 dB linearly sloped and the used levels were at 120 / 550 / 750 / 862 MHz 36.0 / 42.5 / 45.5 / 47.0 dBmV. All results are typical values in room temperature, which can be used in system calculations. XMOD is measured at lowest channel.  
The highest recommended output level for the amplifier is 47 dBmV with 105 channels and 49 dBmV with 72 channels.
- 9)



Measurement is done at 49 MHz with full band noise loading and US input attenuator is having 0 dB value.

- 10) At any frequency from 10 to 1006 MHz when a remote current is less than 2 A.
- 11) When f-connector is used, a remote current should be lower than 2 A.  
4 A is the maximum current, which can be locally injected into all ports together.
- 12) EN61000-4-2, contact discharge to enclosure and RF-ports.
- 13) EN61000-4-5, 1.2 / 50  $\mu$ s pulse to RF-ports.

**Block diagram**



**Ordering information**

CXE160 configuration map  
 DOC0017723  
 Rev 001

	1-	2-	3-
	1	2	1
CXE160		-	-

<b>1-1 Platform type</b>
A High gain, 5...65 / 85...1006 MHz
<b>1-2 Power supply</b>
A Local powering, euro plug (230 VAC)
B Remote powering with cable clamp (65 VAC)
C Local powering, UK plug (230 VAC)
<b>2-1 Input connection</b>
A PG11
B 5/8"
C IEC
D 3.5/12
E F
<b>2-2 Output connection</b>
A PG11
B 5/8"
C IEC
D 3.5/12
E F
<b>3-1 Reserved for future</b>
X None