

Link Balancer® Cellular Diversity Receive Amplifiers



Model R100 Shown

- Multicarrier
- Improve Uplink Reception and Reduce Uplink Interference
- Dual Low Noise GaAs Amplifiers for Diversity Receive
- Field Adjustable Gain
- Unsurpassed AML Technical Support

Link Balancer[®] Cellular Multicarrier Diversity Receive Amplifiers

Functional Description

To extend coverage and improve service quality, AML Communications offers two versions of its R100 base station receive sensitivity enhancement amplifier.

These gain adjustable, diversity receive products employ state-of-the-art Gallium Arsenide (GaAs) FET technology for excellent noise performance.

Both models employ filters to provide rejection of undesired signals. The R100 uses internal high rejection ceramic resonator filters, while the model R100-E employs ultra low loss, very high rejection, external cavity filters to afford the maximum in system sensitivity improvement.

The R-100 series diversity receive amplifiers allow service providers to enhance reception of the uplink signal. This allows Balanced Link[®] operation to be extended to the popular level 2 handheld phones. This concept can be used to extend the effective range of a cell. Alternatively, utilizing R100 amplifiers in several neighboring cells may allow the radiated power of mobile radios to be substantially reduced, eliminating unnecessary RF power transmission, lowering power consumption and RF pollution. Additionally, the superior frequency rejection of the bandpass filters may improve performance in a dense RF environment where several service providers are co-located. This high rejection reduces out of band interfering signals which can

cause undesirable distortion in the base station multicoupler and receiver.

The diversity receive amplifiers are generally compatible with all manufacturer's equipment and configurations. They are typically placed in the radio rack and connected between the receive antenna and the multicoupler.

General Specifications

Frequency

824-849 MHz
USA Cellular A and B band

Gain

-4 to +14 dB Adjustable

Gain Flatness

+/-1 dB maximum

Noise Figure @ Maximum Gain

1.0 dB max- Model R100-E
3.0 dB max- Model R100

VSWR

2:1
1.5 dB including external filter w/ R100-E

Dynamic Range

Thermal noise to -10dBm input

Maximum Safe Input Power

+10 dBm

Stability

Unconditional

VSWR Survivability

∞ :1

AC Power

IEC 320 locking receptacle
110 VAC, 60 Hz, 80 Watts

Dimensions

19" rack, 9.5"d, 5.25"h (Model R100-E)
19" rack, 9.5"d, 1.75"h (Model R100)

Operating Temperature

-20° to +55°C

Connectors

"N" type (f)

Rejection

60 dB minimum, 869-894 MHz
(Model R100-E)
37dB minimum, 869-894 MHz
(Model R100)

Alarms

Dry contact "open" for fault.

Screw terminals are provided on the front panel for alarm contact connections.

Fault Condition - Device current out of range.

DC test points available to monitor gain setting.

Options

- 23 dB Gain
- Amplifier Frequencies:
GSM, TACS and other Cellular bands
- 220 V to 240 V, 50/60 Hz operation
- +15 to +29 VDC, 150 mA operation
- -38 to -74 VDC, 150 mA operation

All of the above specifications are subject to change without notice.

Link Balancer[®] is a registered trademark of AML Communications, Inc.

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