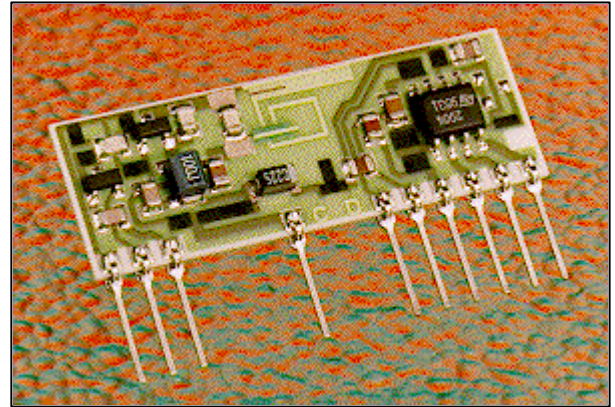


- COMPACT HYBRID MODULE.
- VERY HIGH FREQUENCY STABILITY (with no adjustable components).
- RECEIVING RANGE UP TO 45 METRES.
- CMOS/TTL COMPATIBLE OUTPUT.
- LOW CURRENT CONSUMPTION;
  - ⇒ RR3 TYP 2.5mA.
  - ⇒ RR6/8 TYP 0.5mA.
- SINGLE SUPPLY VOLTAGE 3V or 5V.
- COMPATIBLE WITH R.F. SOLUTIONS AM TRANSMITTERS.
- PATENTED LASER TRIMMED INDUCTOR.
- AVAILABLE FROM 250-450MHz
- COMPLIANT TO ETSI 300-220.
- REQUIRES NO RADIO LICENCE TO OPERATE.



## Description

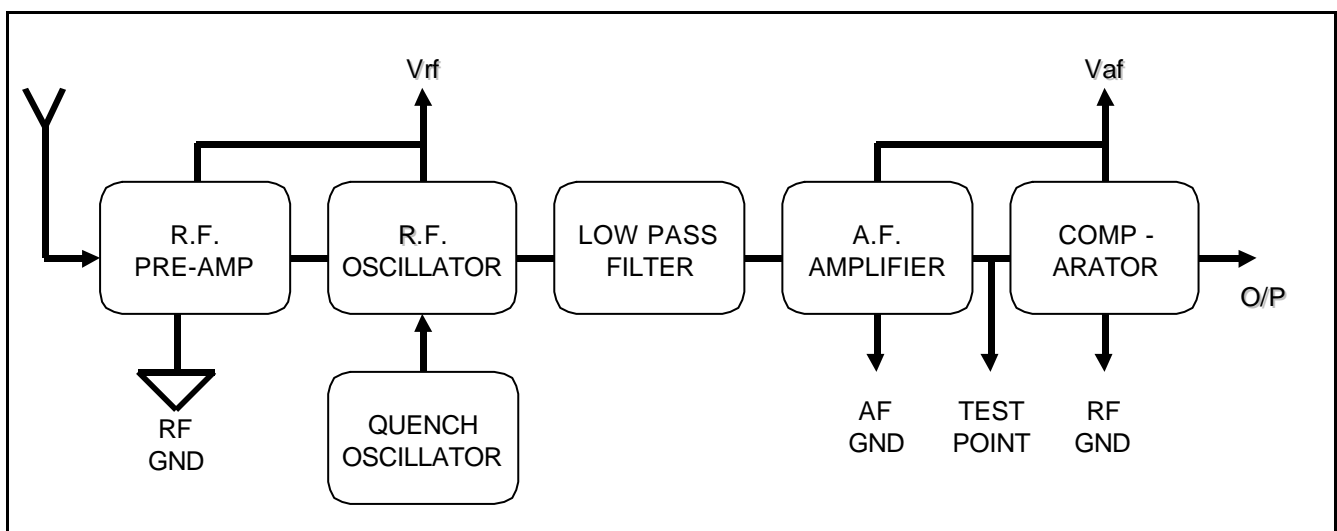
The R.F. Solutions AM Receiver modules are compact hybrid RF receivers, which can be used to capture undecoded data from any 418 or 433MHz AM Transmitter, such as R.F. Solutions AM-TX1, or AM-RT4 / 5 range of transmitters. (See AM Transmitter data sheet)

These modules show a very high frequency stability over a wide operating temperature even when subjected to mechanical vibrations or manual handling.

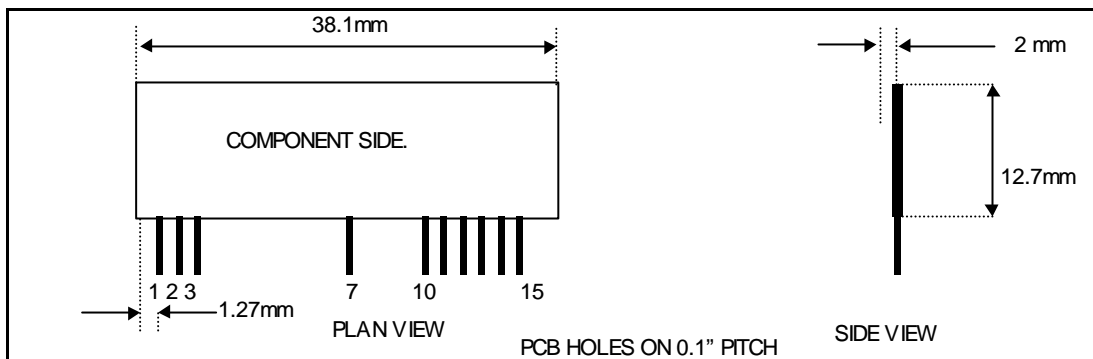
A unique laser trimming process which has been patented gives a very accurate on board inductor, removing the need for any adjustable components.

All receivers are compatible, producing a CMOS/TTL output, and require connections to power and antenna only. The HRR6 is a version with Very Low Current consumption which has a typical quiescent current drain of only 0.5mA. In addition the HRR8 operates from a 3Vdc supply.

## Block Diagram



## Mechanical Details



## Pin Description

Pin No	Pin Name	Pin No	Pin Name
1	RF +V <sub>CC</sub>	8, 9	NC
2	RF GND	10	AF +V <sub>CC</sub>
3	DATA IN (Ant)	11	AF GND
4	NC	12	AF +V <sub>CC</sub>
5	NC	13	TEST POINT
6	NC	14	DATA OUT
7	RF GND	15	AF +V <sub>CC</sub>

## Part Numbering

Part Number	Description
AM-HRR3-XXX	Receiver Module
AM-HRR6-XXX	Receiver Module Very Low Power
AM-HRR8-XXX	Receiver Module Low Voltage Supply, Very Low Power

## Electrical Characteristics

Ambient temperature = 25° Celsius.

ELECTRICAL CHARACTERISTICS	MIN	TYPICAL	MAX	DIMENSION
Storage Temperature Range	-30		+85	° C
Operating Temperature Range	-25		+85	° C
Working Frequency Range	200		450	MHz
Tuning Tolerance		+/- 0.2	+/- 0.5	MHz
-3dB Bandwidth		+/- 2	+/- 3	MHz
Data Rate	50		2000	Hz
Level of Emitted Spectrum		-65	-60	dBm
High Level Output Voltage	4.5			V
Output Voltage @ 1mA sink		0.6		V
Data Output Current (AM-HRR3-XXX @3.6V)			10	mA

## Electrical Characteristics for AM-HRR3-xxx

ELECTRICAL CHARACTERISTICS	MIN	TYPICAL	MAX	DIMENSION
Supply Voltage (RF+Vcc, AF+Vcc)	4.5	5	5.5	V
Supply Current		2.5	3	mA
Time from Power HRR3 / 4 / 5 on to Valid Output Signal		1.2		Secs
R.F Sensitivity 100% AM (AM-HRR3-XXX)	-100	-105		dBm

## Electrical Characteristics for AM-HRR6-xxx, & AM-HRR8-xxx

ELECTRICAL CHARACTERISTICS	MIN	TYPICAL	MAX	DIMENSION
Supply Voltage (RF+Vcc, AF+Vcc) for AM-HRR8 only	2.7	3	3.3	V
Supply Current		0.5		mA
Time from Power on to Valid Output Signal		150		mSecs
R.F Sensitivity 100% AM (AM-HRR6-XXX)		-95		dBm
R.F Sensitivity 100% AM (AM-HRR8-XXX)		-90		dBm

Should you require further assistance, please call;

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*RF Solutions is a member of the Low Power Radio Association.*



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