INTAS-S4-512

Antenna Coupler - Four Transceivers / One Antenna

Description

The INTAS-S4-512 passive antenna combiner allow four transceivers to be connected to a single antenna. Reducing the number of antennas on a platform reduces the visual impact and can improve the radiation pattern due to the reduced effect of co-site interference.

Successful integration of multiple antennas onto ground and shipboard platforms poses many challenges. Platform features impact antenna performance by blocking, reflecting or re-radiating energy, and co-site interference can impair the effectiveness of multi-antenna installations.

The ideal solution would be to reduce the number of antennas to one per frequency band. This solution is not feasible as proper functioning of the individual radios could then no longer be ensured under all conceivable operating conditions. The consequence would be a mutual frequency band “clog up” of the individual radio sets.
To overcome this problem Comrod has developed the INTAS-S4-512 intelligent antenna system which has been designed to permit optimum use of a single antenna. As a result of this, co-site interference is reduced and the transmission quality of the system is maintained both through an increase average range and through appropriate communications procedures.

Electrical Specification

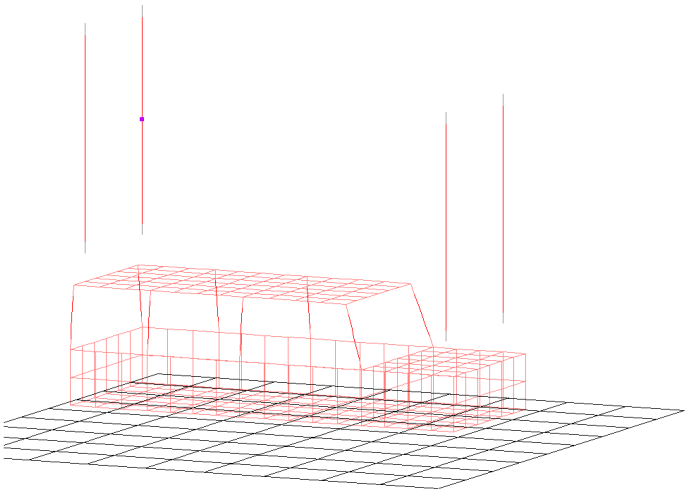
Frequency Range	30-512 MHz
VSWR	≤ 1.3:1
Isolation	> 20 dB nominal (will be dependant on antenna VSWR, high VSWR gives less isolation)
Impedance	Inputs: 50 Ohm Output: 50 Ohm
Power	4 x 60 W (when used with suitable heatsink)
Insertion loss	-6.5 dB typical
Channel Spacing	Any spacing (equipment defined)
Radio bit rate	Any rate (equipment defined)

Mechanical Specification

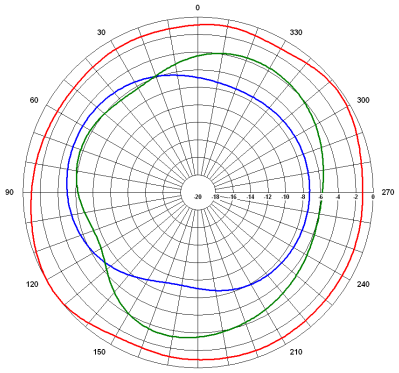
Design	Aluminium enclosure, painted
Dimensions	266 x 235 x 84 mm (10.5 x 9.3 x 3.3 in)
Weight	3 kg (6.6 lbs)
Connectors	BNC Female (x7)
Temperature range	-55°C to +71°C, -67°F to +160°F
EMC	Per MIL STD 462
NEMP	Per AEP4 / STANAG 4145
Environmental	Per MIL STD810 / DIN 58390

INTAS Advantages

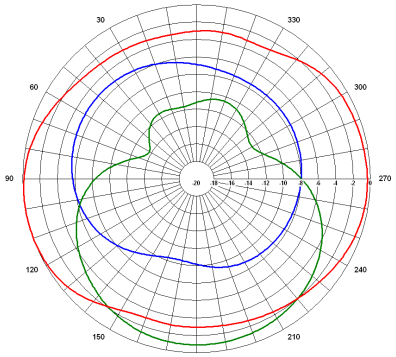
The INTAS system reduces the number of antennas on the vehicle. This has a beneficial effect on the radiation pattern as can be seen opposite.



NEC model of vehicle



Typical azimuth radiation pattern with INTAS and a single antenna



Typical azimuth radiation pattern with two separate antennas

Outline Drawing