

TM4

Low-Loss Tower Top Amp/Receiver Multicoupler

- Includes low-loss wide-band preselector and pre-amplifier
- Single amp, relay bypass or redundant amp options
- Typical 0.7 dB Noise Figure with GaAsFet amp

Sinclair's TM Series of Tower Mounted Amplifier/Receiver Multicouplers are designed to enhance receiver system sensitivity by reducing losses encountered in long feed cable runs. With this system, the antenna output is fed directly into a weatherproof housing containing a low loss, wideband preselector and preamplifier. The desired signal is amplified and transmitted down the feed line to a second amplifier and distribution network in the radio room resulting in an improved system noise figure. This improvement is particularly useful in low-congestion, rural applications where improvements in the signal-to-noise ratio can be realized with the addition of a tower mounted amplifier.

Three different system configurations are available in the TM series. The first, configuration option A, consists of a standard single amplifier in the tower mounted unit. The second, configuration option B, consists of a single amplifier along with a relay bypass switch. In the event of a power supply failure the relay will default to the bypass condition. If the amplifier becomes inoperable, it can be bypassed using a switch on the radio room unit. These features allow the receive system to remain operational thus permitting the scheduling of repairs without immediately taking the system out of service. The third, configuration option C, provides further protection against failure by incorporating a redundant amplifier in the bypass circuit. If the primary amplifier fails, the alternative unit may be remotely switched into the circuit. In the unlikely event that both amplifiers become inoperable, they both may be bypassed. Selection of either the redundant amplifier or the amplifier bypass is actuated using a three-position switch in the radio room unit. All three configurations are equipped with surge arrestors to minimize failure due to lightning strikes.

The TM series is also available with special filtering, high performance amplifiers, a large number of Rx outputs and various power supply options.

The models shown are representative samples and do not constitute a complete list. Please contact Sinclair with your multicoupling needs.



Model	Description
TM415-1A01G1N	806-821MHz, 1 channel, GaAsFET amplifier, 115 VAC power supply
TM415-1A04S1B	806-821 MHz, 4 channels, Si bipolar amplifier, 115 VAC power supply
TM415-1B01S1N	806-821MHz, bypass option, 1 channel, Si bipolar amplifier, 115 VAC power supply
TM415-1B04G1B	806-821MHz, bypass option, 4 channels, GaAs FET amplifier, 115 VAC power supply
TM415-1C20G1B	806-821MHz, redundant amplifier, 20 channels, GaAs FET amplifier, 115 VAC power supply



Australian Representatives

ROJONE, PTY LTD.

Tel: 02 9829 1555

E: sales@rojone.com.au

www.rojone.com.au

www.sinctech.com

Region	United States	Europe, Middle East and Africa	Caribbean and Latin America	Canada and rest of the world
Telephone	USA: 1 800 263 3275	International: +44 (0) 1223 42 03 03	International: +1 905 726 7676	Canada: 1 800 263 3275 International: +1 905 727 0165
E-mail	salesusa@sinctech.com	salesuk@sinctech.com	salesla@sinctech.com	salescan@sinctech.com
Product Specification Sheet		TM4		Dated: 05-02-10

[TM415-1A01G1N](#)

[TM415-1A04S1B](#)

[TM415-1B01S1N](#)

[TM415-1B04G1B](#)

Electrical Specifications

Frequency Range, MHz	806 to 821	806 to 821	806 to 821	806 to 821
Input VSWR (max)	1.5:1	1.5:1	1.5:1	1.5:1
Input Connectors	N (female)	N (female)	N (female)	N (female)
Output Connectors	N (female)	BNC (female)	N (female)	BNC (female)
Bandwidth, MHz	15	15	15	15
Isolation port to port (typ), dB			20	
Isolation Rx to Rx, dB		20		20
Output VSWR	1.5:1	1.5:1	1.5:1	1.5:1
System gain (min), dB	10	18	18	18
Noise figure (system (typ)), dB	1.8	4.2	5	2.9
Third order intercept - amplifier, dBm	24	34	34	24
1 dB Compression point, dBm	18	18	18	18
Supply voltage	115 VAC	115 VAC	115 VAC	115 VAC

Mechanical Specifications

Height - base unit, in (mm)	3.5 (89)	3.5 (89)	3.5 (89)	3.5 (89)
Width - base unit, in (mm)	19 (483)	19 (483)	19 (483)	19 (483)
Depth - base unit, in (mm)	11 (279)	11 (279)	11 (279)	11 (279)
Height - tower top unit, in (mm)	16 (406)	16 (406)	16 (406)	16 (406)
Width - tower top unit, in (mm)	12 (305)	12 (305)	12 (305)	12 (305)
Depth - tower top unit, in (mm)	7.2 (183)	7.2 (183)	7.2 (183)	7.2 (183)
Weight - base unit, lbs (kg)	6 (2.7)	10 (4.5)	6 (2.7)	10 (4.5)
Weight - tower top unit, lbs (kg)	39 (17.7)	39 (17.7)	39 (17.7)	39 (17.7)

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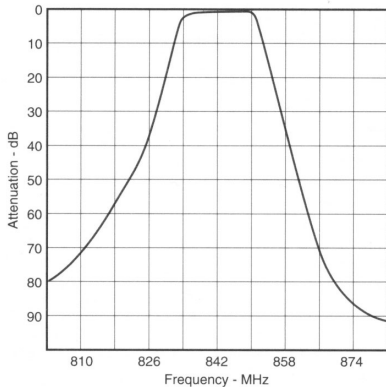
TM415-1C20G1B

Electrical Specifications

Frequency Range, MHz	806 to 821
Input VSWR (max)	1.5:1
Input Connectors	N (female)
Output Connectors	BNC (female)
Bandwidth, MHz	15
Isolation port to port (typ), dB	
Isolation Rx to Rx, dB	20
Output VSWR	1.5:1
System gain (min), dB	18
Noise figure (system (typ)), dB	2.9
Third order intercept - amplifier, dBm	24
1 dB Compression point, dBm	18
Supply voltage	115 VAC

Mechanical Specifications

Height - base unit, in (mm)	3.5 (89)
Width - base unit, in (mm)	19 (483)
Depth - base unit, in (mm)	11 (279)
Height - tower top unit, in (mm)	16 (406)
Width - tower top unit, in (mm)	12 (305)
Depth - tower top unit, in (mm)	7.2 (183)
Weight - base unit, lbs (kg)	10 (4.5)
Weight - tower top unit, lbs (kg)	39 (17.7)



TM-415**-**-*** Series Typical Selectivity

TM415-1A01G1N

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