

TM3

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 0.6 dB Noise Figure with GasFet 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 arresters 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.



www.sinctech.com

Model	Description
TM303-1A01G1N	406-440 MHz, 3 MHz preselector, 1 channel, GaAs FET amplifier, 115 VAC supply
TM303-1C01S1N	406-440 MHz, 3 MHz preselector, redundant amplifier, 1 channel, Si bipolar amplifier, 115 VAC supply
TM305-1A20G1B	406-450 MHz, 5 MHz preselector, 20 channels, GaAs FET amplifier, 115 VAC supply
TM305-1B20S1B	406-450 MHz, 5 MHz preselector, bypass option, 20 channels, Si bipolar amplifier, 115 VAC supply



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[TM303-1A01G1N](#)

[TM303-1C01S1N](#)

[TM305-1A20G1B](#)

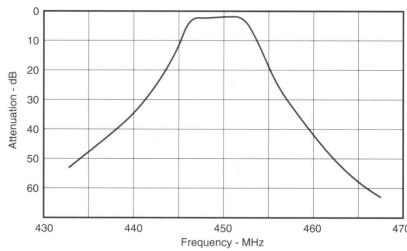
[TM305-1B20S1B](#)

Electrical Specifications

Frequency Range, MHz	406 to 440	406 to 440	406 to 450	406 to 450
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)	N (female)	BNC (female)	BNC (female)
Bandwidth, MHz	3	3	5	5
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	13	11	17	11
Noise figure (system (typ)), dB	2.7	4.1	3	4.3
Third order intercept - amplifier, dBm	24	30	24	40
1 dB Compression point, dBm	12	20	12	20
Number of channels	1	1	20	20

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)	6 (2.7)	6 (2.7)	6 (2.7)
Weight - tower top unit, lbs (kg)	39 (17.7)	39 (17.7)	39 (17.7)	39 (17.7)



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Product Specification Sheet		TM3		Dated: 05-02-10