Millennium TBR

Triband Portable Microwave Receiver



The new Millennium TBR Triband Receiver offers outstanding operational versatility in a modern, compact package. Through extensive use of surface mount technology, the TBR Receiver offers up to three RF bands in the package size of a single band receiver. The reduced component count also offers lower power consumption and improved reliability.

Many new features have also been added to the TBR Receiver in addition to the multiband capability. The front panel meter reads receive carrier level in dBm. The receiver also offers an audible vari-rate tone relative to RCL which assists the operator in aligning the microwave path. The two field programmable audio subcarrier demodulators can be set to any combination of frequencies required. The video demodulator offers the ability to switch the de-emphasis circuit between 525 or 625 line, and flat response, as well as offering a video invert switch. All of these features add up to make

TBR Receiver the most flexible choice in any ENG field production requirement.

Applications

- Electronic News Gathering
- Portable Outside Broadcast

Features

- Available in single, dual, or triband models
- Standard bands:
 - 1.99 to 2.5 GHz
 - 6.4 to 7.1 GHz
 - 12.7 to 13.2 GHz
 - 14.7 to 15.2 GHz
- Other bands available
- Upgradeable to the new 2 GHz channel plan
- Ideal for congested environments and national and international broadcasting operations
- Switchable IF filter bandwidth
- Field-programmable synthesized audio subcarrier demodulators
- Low power consumption
- L.O. Stability: 0.002% @ 2 GHz
- Audible RCL tone aids in antenna alignment
- Direct-read RCL meter in dBm
- Switchable de-emphasis
- Video Invert Switch
- Universal Power Supply



SPECIFICATIONS

RF Performance

Transmitter:	2 GHz	7 GHz	13 GHz	15 GHz
Frequency Range:	1.99 – 2.5 GHz	6.4 – 7.1 GHz	12.7 – 13.2 GHz	14.7 – 15.2 GHz
Threshold @ 37 dB S/N:	-87 dBm	-86 dBm	-86 dBm	-84 dBm
Noise Figure *:	2.5 dB max	2.5 dB max	3.0 dB max	5.0 dB max
Channel Plan:	10 w/ offsets	14 w/ offsets	22 w/ offsets	22 w/ offsets
IF Output:	1 @ 70 MHz	1 @ 70 MHz	1 @ 70 MHz	1 @ 70 MHz
Level:	+5 dBm	+5 dBm	+5 dBm	+5 dBm
IF Bandwidth**:	10, 15 or 20 MHz	20 or 30 MHz	20 or 30 MHz	20 or 30 MHz

^{*} In multiple band models noise figure is <4.0 dB due to RF Switching
** Switchable IF bandwidth must be specified: 10/15, 10/ 20 , 20/30 MHz

Video Performance

Video Output	1 Volt p-p	1 Volt p-p	1 Volt p-p	1 Volt p-p
Signal-to-noise:	70 dB	70 dB	70 dB	70 dB
Signal-to-hum:	60 dB	60 dB	60 dB	60 dB
Differential Phase:	.5°	.5°	.5⁰	.5°
Differential Gain:	2% max	2% max	2% max	2% max
Tilt:	2% max	2% max	2% max	2% max
Chrominance Delay:	+10 ns	+10 ns	+10 ns	+10 ns
Chrominance Gain	(4% if at 15 MHz IF; 2% if at 20/20 MHz IF)	2%	2%	2%

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Audios:	Any 2 channels synthesized
Audio Freq. Response:	4.83 to 8.59 MHz +1.5 dB max 40 Hz to 15 kHz
Harmonic Distortion:	+0.5 dB max 40 Hz to 10 kHz
Output Levels:	set to +8 dBm at factory
Audio Signal-to-Noise:	70 dB
PHYSICAL CHARACTERISTICS Size:	
Weight, Dual-Band Models: Tri-Band Models:	

POWER REQUIREMENTS	
Input Range, Standard:	
	115/230 Vac
Consumption:	20 Watts (single band)

ENVIRONMENTAL

Temperature Range, Operating:	–30° to +60°C
Relative Humidity, Operating:	95%
3, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	$(@ +10^{\circ} to +40^{\circ}C)$
Altitude, Operating:	15,000 feet (4,500 m)

CONFIGURATIONS

Millennium TBR, 2 GHz
Millennium TBR, 7 GHz
Millennium TBR, 13 GHz
Millennium TBR, 2 & 7 GHz
Millennium TBR, 2 & 13 GHz
Millennium TBR, 7 & 13 GHz
Millennium TBR, 2, 7 & 13 GHz

OPTIONS

Antenna Lock Plate (use with Twist Lock Antennas) Cine 60 Tripod Quick Disconnect Plate Antenna Quick Disconnect Kit (4' antenna only)
Antenna Quick Disconnect Kit (other antennas)
SF214 Cable, Type N Connectors (24")
Transit Case, Portable Transmitter/Receiver Haist Case, Fortable Haisfilliter/Neceiver Heavy Duty Tripod Pan & Tilt Head, for Heavy Duty Tripod Medium Weight Tripod 2' Reflector, 2/7/13 GHz Type "N" Feeds 2' Reflector, 2/7/13 GHz Twist Lock Feeds Case for 2' Reflector & Three Feeds













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