

IMARK

PRODUCT DESCRIPTION

5208TR TRANSPORTABLE REPEATER

FM Transportable Repeater, 66 to 520 MHz
Imark Stock # [930160](#) (See listing below)

Features:

- Compact Size
- Lockable Weather Resistant Aluminium Cabinet
- Two Kyodo KG108/208 transceivers
- CTCSS Encoder and Decoder included
- Modular Construction
- Easy Access to Electronics
- Internal 38Ah Sealed Lead Acid Battery
- AC Mains Power Supply/Charger included
- Provision for Internal Solar Regulator
- Internal Diplexer/Notch Filter Set
- Cross-Band Transponder version available
- Remote Transmitter Enable/Disable
- Full Local Control of Transceivers
- Low Battery Voltage Alarm
- Exchangeable Transceivers for Redundancy
- Low Battery Voltage Alarm



DESCRIPTION:

The Imark 5208TR has been specifically designed for rapid deployment to remote sites for operation as a temporary repeater. It is a self-contained unit incorporating transceivers, power supply, and diplexer modules and only requires the addition of an antenna and feeder cable to be operational. Alternatively, the 5208TR can be configured to operate from one frequency band to any other frequency band as Cross Band Transponder.

The Power Supply Module incorporates an AC Mains SM Power Supply with battery back-up facility and automatic changeover and a 38 Ah Sealed Lead Acid battery. The Power Supply Module would normally be "On Power" while in storage thus keeping the battery in a fully charged state in readiness for immediate deployment. The Battery has sufficient capacity to operate at site without power for several hours before requiring charging. If AC main power is available at site, then the 5208TR can operate indefinitely.

If required, an optional Solar Regulator can be also installed with the Power Supply Module to provide power to the 5208TR should the unit be required to operate for extended periods at un-powered sites.

The Transceiver Module includes two Kyodo KG108 or KG208 25 Watt mobile transceivers and an audio interface/switching module. The Kyodo KG108/208 transceivers are available for any FM frequency between 66 MHz and 520 MHz, have channel capacities of up to 200 channels, and include CTCSS encoders and decoders that can be programmed for different CTCSS tones on a per channel basis.

The RF Power output can be set anywhere between 1 and 25 watts with two fixed outputs being available on a per channel basis. Thus, the transceivers can be pre-programmed with all likely repeater channels, so that the 5208TR can be deployed immediately without wasting time to program the transceivers.

The Audio Interface/Switching Unit is included to provide the correct audio levels between the two transceivers. It includes a Selcall or DTMF operated remote "ON/OFF" switch function that can be used to remotely activate or de-activate the transmitter transceiver and conserve battery capacity, or to allow the 5208TR to be located in situ in a dormant state until it is required to be put in or out of service. A Low Battery Voltage Alarm facility is also included.

The Diplexer Module is designed to mount various diplexers to suit specific frequency and site requirements. It will accept diplexers with up to six Notch Filters.

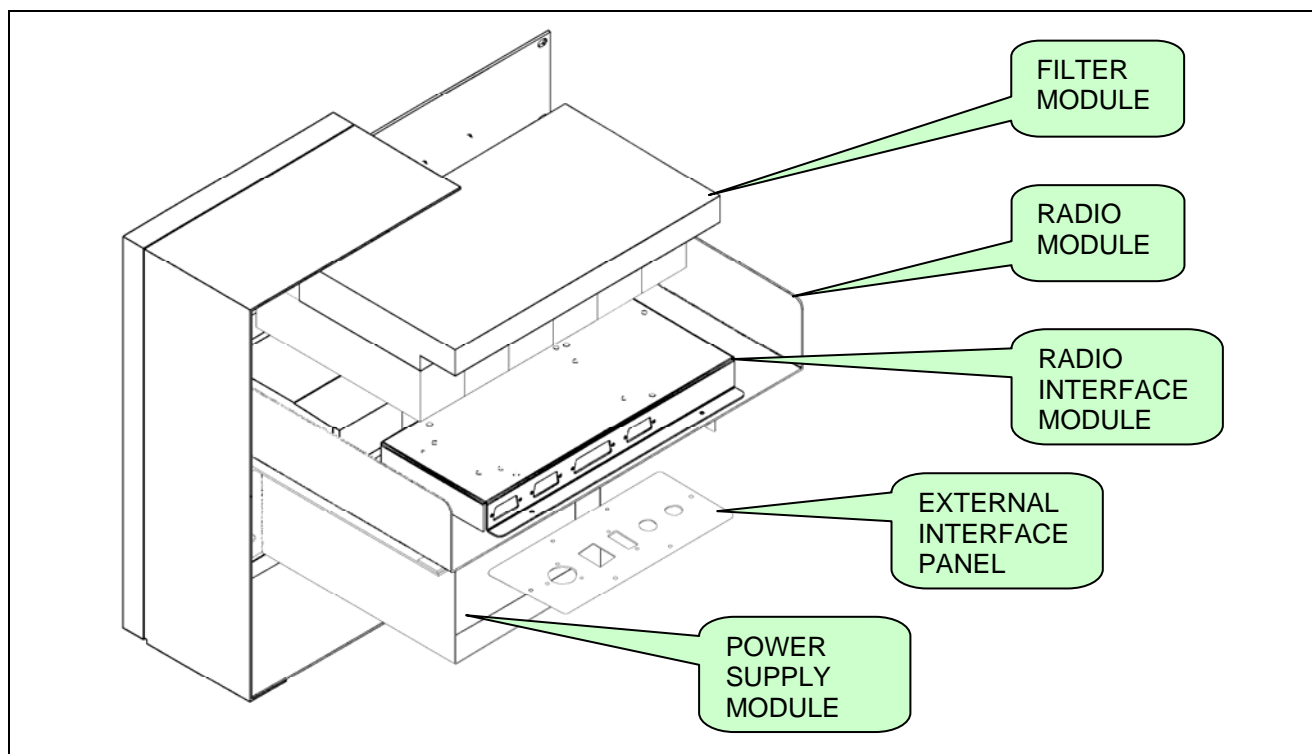
Each module is a self-contained unit that mounts in a custom rack arrangement. The Power Supply Module is 6RU in height, while the Transceiver Modules and the Diplexer Modules are each 2RU in height. The 5208TR cabinet is constructed of aluminium to reduce the weight of the unit and to assist with heat dissipation. It has lockable hinged front and rear doors that open downwards and provide a handy work tray

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when making adjustments on site at remote locations. Both doors can be removed if required. A recessed cable entry panel is provided at the rear of the cabinet. It is recessed so that the connectors do not protrude outside the cabinet outline and to provide a somewhat weather protected environment for the cable connectors. The 5208TR cabinet is fitted with adjustable feet and handles to assist with manoeuvrability and with site location.

The Imark 5208TR Transportable Repeater is normally supplied with the Power Supply Module including Battery, Transceiver Module for the required frequency band, and the necessary Diplexer Module.



MODEL DETAILS:			
Frequency/Channel Band	Power	Model #	Imark Stock #
66 - 88 MHz, 12.5 KHz	1-25 Watts	5208-08A25TRN	913710
66 - 88 MHz, 25/30 KHz	1-25 Watts	5208-08A25TRW	913711
136 - 162 MHz, 12.5 KHz	1-25 Watts	5208-15A25TRN	914710
136 - 162 MHz, 25/30 KHz	1-25 Watts	5208-15A25TRW	914711
146 - 174 MHz, 12.5 KHz	1-25 Watts	5208-15B25TRN	914712
146 - 174 MHz, 25/30 KHz	1-25 Watts	5208-15B25TRW	914713
176 - 208 MHz, 12.5 KHz	1-25 Watts	5208-20A25TRN	915710
176 - 208 MHz, 25/30 KHz	1-25 Watts	5208-20A25TRW	915711
208 - 248 MHz, 25/30 KHz	1-25 Watts	5208-20B25TRN	915712
240 - 276 MHz, 12.5 KHz	1-25 Watts	5208-20C25TRW	915713
240 - 276 MHz, 25/30 KHz	1-25 Watts	5208-20C25TRW	915715
335 - 365 MHz, 12.5 KHz	1-25 Watts	5208-40A25TRN	917711
335 - 365 MHz, 25 KHz	1-25 Watts	5208-40A25TRW	917712
365 - 400 MHz, 12.5 KHz	1-25 Watts	5208-40B25TRN	917713
365 - 400 MHz, 25 KHz	1-25 Watts	5208-40B25TRW	917714
400 - 435 MHz, 12.5 KHz	1-25 Watts	5208-40C25TRN	917715
400 - 435 MHz, 25 KHz	1-25 Watts	5208-40C25TRW	917716
440 - 475 MHz, 12.5 KHz	1-25 Watts	5208-40D25TRN	917717
440 - 475 MHz, 25 KHz	1-25 Watts	5208-40D25TRW	917718
465 - 500 MHz, 12.5 KHz	1-25 Watts	5208-40E25TRN	917719
465 - 500 MHz, 25 KHz	1-25 Watts	5208-40E25TRW	917720
485 - 520 MHz, 12.5 KHz	1-25 Watts	5208-40F25TRN	917721
485 - 520 MHz, 25 KHz	1-25 Watts	5208-40F25TRW	917722

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SPECIFICATIONS:	
General	Details
Number of Channels	Up to 200
Channel Spacing	12.5KHz, 20KHz, 25KHz, or 30KHz (5/6.25/10/12.5 KHz PLL steps)
Operation Mode	Repeater or Cross Band Translator
Antenna Impedance	50Ω Unbalanced
Transmitter	
RF Power Output	Two settings between 1 and 25 Watts on a per Channel basis
Maximum Frequency Deviation	Wide band: ± 5 KHz, Narrow Band: ± 2.5 KHz, Channel Selectable
Frequency Stability	Wide Band: $\pm 0.0005\%$, Narrow band: $\pm 0.0003\%$
Frequency Response	Within +1, -3dB of 6dB/Octave pre-emphasis from 0.3 to 3.0KHz, 1 KHz reference
Signal To Noise Ratio	Wide Band: More than 50dB at 1 KHz 70% Modulation Narrow Band: More than 45dB at 1 KHz 70% Modulation
Modulation Distortion	Less than 3% at 1 KHz 70% Modulation
Spurious and Harmonics	More than 70dB below rated power
Receiver	
Intermediate Frequencies	1 st IF: 48.5 MHz, 2 nd IF: 455 KHz
Frequency Stability	Wide Band: $\pm 0.0005\%$, Narrow band: $\pm 0.0003\%$
Sensitivity	Less than 0.4μV for 20 dB noise quieting Less than 0.3μV for 12 dB SINAD
Squelch Sensitivity	Less than 0.25μV
Selectivity	More than 70dB at ± 25 KHz
Blocking	More than 90 dB
Intermodulation	More than 70 dB
Spurious Response	More than 70 dB
AF Response	Within +1, -3dB of 6dB/Octave de-emphasis from 0.3 to 3.0 KHz, 1 KHz reference
AF Distortion	Less than 5% at 1 KHz 70% modulation
Signal to Noise Ratio	Wide band: More than 50dB at 1 KHz 70% modulation Narrow Band: More than 45dB at 1 KHz 70% modulation
Power Supply Module	
Battery Details	Yuasa NP38-12 38AH 12 Volt Sealed Lead Acid type
AC Input Voltage	240 \pm 20% Volts AC 48 - 62 Hz. (Others available upon request)
Output Voltage	13.65 Volt DC
Power Supply Current	10 Amps at 13.65 \pm 2% Volts DC
Over Voltage Protection	14.5 - 16.5 Volts
Over Current Protection	10.55A \pm 0.45 Amps
Low Voltage Battery Release	9.8 Volts - 10.6 Volts
Diplexer Module	
Specifications	4 or 6 Cavity 50 Watt Vari-Notch type. Specifications are frequency and model dependent. Contact Imark for specific details.
Physical	
Unit Dimensions	488 (W) x 385 (D) x 400 (H) mm
Shipping Dimensions	550 (W) x 450 (D) x 450 (H) mm
5208TR Weight:	31 Kg's (depending on exact configuration)
Shipping Weight:	34 Kg's (approx)
Approvals	
Imark Stock #	See Table Above
Inclusions	Operators Manual, AC Cable, Keys, DC Connector
Options	Solar Regulator, Automatic Identification Module