

IMARK

PRODUCT DESCRIPTION

KYODO KG510 BASE or REPEATER

Reliable Synthesised 99 Channel 50 Watt Base-Station or Repeater

Imark Stock # [91xxxx](#)

Features:

- Simplex or two frequency Duplex operation
- 22, 26, or 35 MHz TX switching bandwidth (model dependant). Up to 10MHz RX switching Bandwidth
- EEPROM programmable with a PC computer
- Up to 99 channels with Channel Labels
- Single Channel and 99 Channel Versions available
- Full Dot Matrix Liquid Crystal Display
- Two-Stage Front End allows mixed Simplex and Duplex operation with optional Transfer Relay
- Channel selectable Wide or Narrow channel spacing
- All FM Frequency Bands from 30 to 520 MHz
- CTCSS on a per channel basis
- Front Facing Speaker
- 5 X 4 Keypad for Channel Change etc
- 2RU Equipment Cabinet
- Transmit Time Limiter to prevent channel jamming
- Step-Up VCO Voltage for Superior Selectivity
- TX and RX Encryption
- Two Channel Scanning Modes
- 5 Tone & DTMF Encoder & Decoder
- Watchdog Timer
- Less than 400mA Standby Current



DESCRIPTION:

The **Kyodo KG510** transceivers represent a quantum advance on the previous rugged & time proven KG110 transceiver. They comprise of separate modules all housed within one 2RU equipment cabinet. The receiver, the transmitter, and the PA Unit are each enclosed within their own diecast housing, which are then directly mounted on the large upper heat-sink. A μ Processor controlled interface module controls the channel selection, LCD Display, timers, interfaces, and signalling features. Low Standby Current of less than 400mA is ideal for solar powered installations

Models are available for all FM commercial and military frequency bands from 30 MHz to 520 MHz, with channel selectable 12.5, 20, 25, or 30KHz channel spacing arrangements.

The RF Power Output is 1 - 50 Watts on a continuous duty basis. The CTCSS signalling supports all EIA tones. Different encode and decode tones can be set on a per channel basis during radio programming.

The **KG510** includes 5 tone Selective Calling encoder/decoder with non-predictive decoder, as well as a DTMF encoder and decoder, and voice encryption. It supports normal all channel scanning and programmed channel scanning for base use.

The **KG510** is fitted with a large full dot matrix LCD that is used to display the Channel Numbers & Names, frequency & tone programmed information, and Signalling information. All user interface keys and knobs are conveniently located on the front of the radio. All user-entered functions are easily activated in a logical manner via the keypad.

The **KG510** is supplied with an "N" Type connector for the transmitter, and a BNC Connector for the Receiver to allow easy connection to the diplexer or feeder cables.

The rear panel includes a 9 way and a 25 way D sub connector that allow easy connection to external accessories such as other radios, control equipment or shared tone panel.

The **KG510** is PC programmable through the rear connector. The programming software sets Channel frequencies, Channel Names, CTCSS or DCS frequencies, Start Channel and Start Message, the KILL security feature, and Signalling parameters. The software includes a memory check function and a WatchDog Timer.

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PRODUCT DESCRIPTION

SPECIFICATIONS:	
GENERAL	
Frequency Range	All FM bands from 30 to 520 MHz
Channels	1 on Single Channel Model, or 99 on Full Feature Model
Channel Spacing	12.5kHz, 20kHz, 25kHz, & 30kHz
Station Mode	Repeater, Duplex Base, Base & Repeater, or Simplex Base
Operating Mode	Single or Dual Frequency Simplex, or Dual Frequency Repeater or Base
Antenna Impedance	50 ohms unbalanced
Duplex Tx-Rx Frequency Separation	0.5 MHz Minimum
Power Supply	13.6 Volts DC $\pm 20\%$ Negative Ground Only (Nominal 12 Volts DC)
Current Requirements High Power: 50 Watts Low Power: 1 Watt Receive Stand-by	9.5 Amps 1.8 Amps 600 mAmp @ maximum volume 330mA (typical)
Environmental Conditions	Ambient Temperature: -30°C to +60°C Relative Humidity: 95% at +35°C
Dimensions (excluding protrusions) Weight	482 (W) mm x 88 (H) mm x 360 (D) mm 11.5 Kg's
Shipping Dimensions Weight	530 (W) mm x 300 (H) mm x 550 (D) mm 13 Kg's
TRANSMITTER	
RF Power Output	1 watt or 50 Watts (Continuous Duty basis)
Maximum Frequency Deviation	Wide Band: ± 5 KHz, Narrow Band: ± 2.5 KHz
Oscillation System	Direct Loop PLL synthesiser system
Frequency Stability	$\pm 0.0005\%$ (VHF Models), $\pm 0.0002\%$ (UHF Models)
Frequency Response	Within +1dB, -3dB of 6db/Octave Pre-Emphasis from 0.3 to 3kHz, 1kHz Reference
Signal to Noise Ratio	More than 45dB at 1kHz 70% Modulation (Narrow Band) More than 50dB at 1kHz 70% Modulation (Wide Band)
Modulation Distortion	Less than 3% at 1 KHz 70% Modulation
Spurious and Harmonics	More than 70dB below rated power
AF Input	-34 dBm ± 3 dB/600 Ω (Direct), & -8 dBm ± 3 dB/600 Ω (Remote)
RECEIVER	
Intermediate Frequencies	1 st IF: 21.6 MHz (Up to 50 MHz), 48.5MHz (50 - 520 MHz), 2 nd IF: 455 KHz
Frequency Stability	$\pm 0.0005\%$ (VHF Models), $\pm 0.0002\%$ (UHF Models)
Sensitivity	Better than 0.4 μ V for 20dB SINAD Better than 0.3 μ V for 12dB SINAD
Squelch Sensitivity	Less than 0.25 μ V
Squelch Adjustment Range	0.1 μ V - 3.0 μ V
Modulation Acceptance	± 7.0 KHz
Selectivity	Better than 70dB at 25KHz point
Blocking	Better than 90dB at ± 1 MHz point
Intermodulation	Better than 70dB
Spurious Response	Better than 70dB
AF Response	Within +1, -3 dB of 6dB/Octave de-emphasis from 0.3 to 3.0 KHz, 1 KHz Reference
AF Output	2W into 4 ohms (Internal speaker), 0dBm ± 3 dB @ 600 Ω balanced
AF Distortion	Less than 5% at 1KHz 70% modulation
Signal to Distortion	More than 45dB at 1kHz 70% Modulation 12.5kHz Channel Spacing More than 50dB at 1kHz 70% Modulation 25kHz Channel Spacing
Approvals	AS4295:1995
Options	Imark 5020 20 Amp Power Supply Kyodo ACU-30 3+1 Antenna Change-Over Unit Imark TS10-50I Test interface unit for servicemen