

706mk2g manual

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INTRODUCTION

This service manual describes the latest service information for the IC706M2G3 HF/VHF/UHF ALL MODE TRANS-CEIVER at the time of publication.

VERSION NO.	VERSION	SYMBOL
RS2 #12	Europe	EUR
RS2 #13	France	FRA
RS4 #14	Spain	EGP
RS5 #15	U.S.A.	USA
RS6 #16	Other	OTR

To upgrade quality, any electrical or mechanical parts and internal circuits are subject to change without notice or obligation.



ORDERING PARTS

Be sure to include the following four points when ordering replacement parts:

- 10-digit order numbers
- Component part number and name
- Equipment model name and unit name
- Quantity required

SAMPLE ORDER:
11000000 R.G. P/C2701 IC706M2G3 MAIN UNIT 5 pieces
81000000 Low IN 40.0-5.0 IC706M2G3 Toether 10 pieces

Addresses are provided on the inside back cover for your convenience.

REPAIR NOTES

1. Make sure a problem is internal before disassembling the transceiver.
2. **DO NOT** open the transceiver until the transceiver is disconnected from its power source.
3. **DO NOT** touch any of the variable components. Turn them slowly and smoothly.
4. **DO NOT** short any circuits or electronic parts. An insulated tuning tool **MUST** be used for all adjustments.
5. **DO NOT** keep power ON for a long time when the transceiver is defective.
6. **DO NOT** transmit power into a signal generator or a dummy generator.
7. **ALWAYS** connect a 50 ohm to 60 ohm attenuator between the transceiver and a spectrum meter or spectrum analyzer when using such test equipment.
8. **READ** the instructions of test equipment thoroughly before connecting equipment to the transceiver.

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Book Descriptions:

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Book Descriptions:

706mk2g manual

Operation is subject to the following two conditions 1This device may not causeSave this instruction manual. This instructionThis may result in an electrical shockThis could cause a fire or ruinRNEVER apply more than 16 V DC, such as a 24 VRNEVER let metal, wire or other objects touch anyRNEVER expose the transceiver to rain, snow orDuring mobile operation, DO NOT operate the transceiver without running the vehicle's engine. WhenOFF, the vehicle's battery will soon become exhausted. Make sure the transceiver power is OFF before starting the vehicle. This will avoid possible damage to theDuring maritime mobile operation, keep the transceiver and microphone as far away as possible from theBE CAREFUL! The heatsink will become hot whenBE CAREFUL! If a linear amplifier is connected, setNEVER allow children to play with the transceiver. AVOID using or placing the transceiver in areas withAVOID placing the transceiver in excessively dustyAVOID placing the transceiver against walls or puttingThis will obstructUse Icom microphones only supplied or optional. Other manufacturer 's microphones have different pinBeat signals may be heard on some frequencies. These will occur as a result of circuit construction. For U.S.A. only. Caution Changes or modifications to this transceiver, notRWARNING shock may occur.If disregarded, inconvenience only. No riskThe IC706MKIIG Europe version complies withThis compliance is based on conformity with the European harmonized standard ETS300 684. Jan. 1997 EMC product standard for Commercially Available. Amateur Radio Equipment. ConditionQty.Rotate clockwise to increase the audio output fromShows the operating frequency, dot matrix indications, selected memory channel, etc. See p. 7 forRTTY modes; 1 MHz steps are only available in FM. WFM and AM modes.RTTY aRTTYChanges the displayed frequency, selects initial setModulartype microphone connector—connects theON and OFF.UNIT is installed p. 52, push for 2 sec.<http://www.restaurant-lyons.fr/userfiles/c51gm-m-manual.xml>

- **706mk2g manual, icom 706mk2g manual, ic-706mk2g manual, icom ic 706mk2g manual, 706mkiig manual, icom 706mk2g manual pdf, 706mk2g service manual, icom ic 706mk2g manuale italiano, icom 706mk2g manuale italiano, 706mk2g manual, 706mk2g manual, 706mk2g manual, 706mkiig manual, icom 706mk2g manual, ic 706mk2g manual.**

to havePush to select the function indicated in the dotThis is convenient for mobileMHz call channel.SUB DIAL frequency see above.Shifts the center frequency of the receiver's IF passband. Pull away from the transceiver towards yourselfClears the selected memory channel'sToggles the split function ON and OFF.VFO mode.VFO EQUALIZATION p. 16. Equalizes the frequency and operatingNARROW FILTER p. 23. Toggles the narrow filter or wide filter—SSB narrow FL223. SSB wide FL103. NOISE BLANKER p. 21. Turns the noise blanker ON and OFF. VFO frequency and operating mode. WFM modes; the "AM Noise blanker" item inTRANSMIT FREQUENCY CHECK p. 28. Appears when the split function is turned. ON—monitors the transmit frequencyMETER SELECTION p. 24. Selects the type of meter displayed duringStores the displayed frequency and operating mode into the displayed memoryMEMORY TRANSFER p. 40. Transfers the frequency and operatingToggles the VOX function ON and OFF.SPEECH COMPRESSOR p. 25. Toggles the speech compressor ON andStores the displayed frequency and operating mode into the displayed memoryMEMO PAD WRITE p. 41. Stores the displayed frequency and operating mode into a memo pad. MEMO PAD READ p. 41. Calls up a memo pad. AGC p. 21. Changes the time constant of the AGC circuit.Selects semi breakin, full breakin QSKTONE SQUELCH p. 30. Toggles the tone squelch function ON and. OFF a tone squelch frequency must beSCAN p. 43. Starts and stops the scan

function. PRIORITY WATCH p. 43. Starts and stops priority watch. SELECT SCAN p. 43. Toggles the select setting ON and OFF for Toggles between VFOREPEATER TONE OPERATION p. 29 QUICK BAND CHANGE FUNCTION p. 19. This item provides access to the band stacking register. By default the 7, 50 and 144 MHz bands are displayed. Accept a 50 antenna with an PL259 type plug. Accepts 13. <http://www.dimecal.com.br/arquivos/c51pvgm-m-manual.xml>

8 V DC through the supplied DC power Enables connection to external equipment such as Connects an external terminal unit for RTTY FSK Designed for use with a personal computer for Accepts a paddle to activate the internal electronic Accepts the control cable from an optional AH3 Output current When grounded, transmits connected to 8V Output voltage Control voltage. Input impedance When grounded, transmits connected to 8V Ground level. Input current Ground level. Input current Output current Ground level. Input current Input impedance. Input level Output impedance 4.7 k Output level Goes to ground when squelch opens. Color refers to the Show the operating mode. Note The SWR meter does not function in the 144. MHz band. Shows that the displayed memory channel is not Shows that the split frequency function is activated. Shows the operating frequency. VFO A or B appears when VFO mode is selected. MEMO appears when memory mode is selected. Shows that the displayed memory channel is designated as a select memory channel. Push and hold to transmit; release to receive. Frequency up. Ground. Frequency down. Ground through 470. Squelch open Squelch closed Caution DO NOT short pin 1 to ground as Keep the shipping cartons. For a description and a diagram of accessory equipment included with the IC706MKIIG, see UNPACKING on p. ii of this manual. To prevent electrical shock, television interference For best results, connect a heavy gauge wire or strap Make the distance Select antennas, such as a well matched 50 The transmission line should Standing Wave Ratio VSWR is recommended for CAUTION Protect your transceiver from lightning When the SWR is higher than approx. 2.0 1, the In this case, an optional antenna tuner is useful D Stand. To raise the stand.

With the transceiver upside down, pull the stand D Front panel separation D Front panel mounting Be careful of the orientation of the MB63, otherwise, the front panel may become attached in the Refer to the CAUTION Before connecting the DC power Note When using the PS85, the IC706MKIIG Europe version complies with. EMC directives even if the OPC639 is OFF when connecting the AT180, otherwise, the CPU may AT180. When using an HF to 2 m Note Resetting clears all programmed contents in D M1 display selection. If you can't figure out how to return to the M1 display. After resetting the transceiver, set controls and switches as shown in the diagram below. Turn power ON, then check the display. If any of the CCW counterclockwise VFO is an abbreviation of Variable Frequency. Oscillator, and traditionally refers to an oscillator. The IC706MKIIG's VFO can store a frequency and an You can call up a desired frequency to a VFO with the The IC706MKIIG has two VFOs, specially suited for The VFOs are called VFO A VFO automatically memorizes the new frequency or Each memory channel shows a frequency and operating mode like a VFO. Even if the frequency or When the VFO is selected from another VFO or When a memory channel is selected from another Note The band stacking register can also be used to Programmable tuning steps are available to suit your These tuning steps are When neither the quick tuning step or programmable These tuning steps are only available in SSB, CW AM modes. MHz tuning step and the programmable tuning MHz tuning step is selected. This function is always However, in. SSB, CW and RTTY modes, the set mode item "Sub This is convenient for contest MHz bands, respectively. The following modes are available in the IC706MKIIG. WFM receive only, AM, RTTY and a RTTY RTTY To select the desired mode of operation push Note If a desired mode cannot be selected, it may be The IF shift function electronically changes the passband frequency of the IF intermediate frequency The function shifts the.

<http://www.drupalitalia.org/node/73261>

The IF shift is not The IF shift is displayed graphically for about 1 sec. D RIT function. The RIT

Receive Incremental Tuning function compensates for off-frequencies of communicating stations. The function shifts the receive frequency up to Note The RIT function is not available in FM, WFM. The shift frequency of the RIT function can be The noise blanker reduces pulsed-type noise such as If you don't want to use the noise blanker D AGC time constant. The AGC Automatic Gain Control controls receiver AGC time constant cannot be changed in FM mode. D Preamp and attenuator. The preamp amplifies received signals in the front. Turn this function ON when receiving weak signals. The attenuator prevents desired signals from distorting when very strong signals are near the desired frequency or when very strong electric fields, such as D Peak meter hold This function can be turned ON and OFF in initial set ON and OFF; push and hold to turn the attenuator ON. The RF Radio Frequency gain is used to adjust the The SQUELCH removes noise output from the It is also available for the other modes. Initial set mode When set to AUTO, SQL is Then, rotate the control clockwise to the This is the best D Simple band scope. This function allows you to visually "sweep" an area. Detected signals are indicated graphically in the dot Note Use the attenuator or turn OFF the preamp when Two optional filters can be installed in the IC706MKIIG. Narrow filters help reject interference from adjacent Wide filters provide improved audio for SSB operation when no interfering signals are present. Consult the table below to select a filter most suitable Note When selecting the narrow filter, the graphic FIL 2"; see Filter variations. Name. Mode. Band width No W—wide position. M—medium normal position. N—Narrow position No Narrow Microphone gain must be adjusted properly so that ALC zone. D Meter function. The bar meter in the function display acts as an. S meter for relative signal strength, except in WFM Po ALC limits the RF power.

<http://dhirarchitects.com/images/bosch-wfk-6010-manual.pdf>

In such cases, The IC706MKIIG has a built-in, low distortion This circuit increases Note When the ALC meter peaks above the ALC VOX operation. The VOX Voice-operated Transmission function The AT180 automatic antenna tuner matches the IC706MKIIG to the connected antenna automatically. Once the tuner matches an antenna, the variable CAUTION NEVER transmit with the tuner ON This will damage Note However, operation is different for the HF and 50. MHz bands. If the tuner cannot reduce the SWR to less than 1.51 Through inhibit HF bands only. The AT180 has a through inhibit condition. When SWR's. In this case, automatic tuning in the HF Therefore, manual tuning is necessary each time you Although termed "through If you want to turn OFF the tuner under conditions of. VSWR 1.51 or less, use "automatic tuner on" and ON and OFF. The AH4 matches the IC706MKIIG to a long wire AH4 operation. Tuning is required for each frequency. Be sure to NEVER operate the AH4 without an antenna wire. The tuner and transceiver will be damaged. NEVER operate the AH4 when it is ungrounded. Transmitting before tuning may damage the transceiver. Note that the AH4 cannot tune when using a Note The AH4 can be used for HF bands and the This function is turned ON in initial set mode, Split frequency Following is an example of setting 7.057 MHz, CW To exchange the transmit and receive frequencies, The split lock function is convenient for changing only Otherwise, accidentally D Quick split function The quick split function is ON by default. If desired, it Note This setting is not valid for FM operation. This A repeater amplifies received signals and retransmits When using a repeater, A repeater can be Only received signals By monitoring a signal that is being transmitted on a TSQL SCN during tone squelch operation, or. Q8 RPTRT SCN during repeater operation. Set the auto repeater function ON or OFF in initial set D CW operation Q3 BKIN DELAY; then rotate the main dial D CW reverse mode.

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The CW A CW Reverse mode receives CW signals D Electronic CW keyer Both keying speed and weight the ratio of dot space dash CW PADDLE, then rotate the main dial to select RATIO, then rotate the main dial to select the CW mode. Paddle operation from front panel MIC connector. Connect a CW paddle as at right to operate an electronic keyer from the front panel MIC connector. CW PADDLE in quick set mode. p. 48 D Connections for AFSK RTTY TONE; then rotate the main dial to

selectShift frequencyRTTY SHIFT; then rotate the main dial to selectRTTY keyingRTTY KEYING; then rotate the main dial toD RTTY AFSK operationRTTY reverse mode. Received characters are occasionally garbled whenSPACE. This reversal can be caused by incorrect. TNC connections, settings, commands, etc.To receive a reversed RTTY signal correctly, selectSame as above. Shift frequency. Same as above. RTTY keying. Same as above.D Data socketRear panel viewGround for DATA IN, DATA OUT and AF OUT. Transmits when grounded. Outputs 9600 bps receive data. Outputs 1200 bps receive data. Squelch output. Goes to ground when squelch opens. D Adjusting the transmit signal output from the TNCData speed is set in initial set mode see p. 53 itemTNC is applied exclusively to the internal limiter circuitry to automatically maintain bandwidth. NEVER apply data levels from the TNC of over 0.6. Vpp, otherwise the transceiver will not be able toTNC carefully before attempting packet operationDecrease the TNC output level until the transmitWhen transmission is not successful even thoughIncrease the TNC output level.ANT2 has no measuring circuit. D Measuring SWR. The IC706MKIIG can measure SWR in 2 waysRTTY operation.Plot measurement allows you to measure the SWRSpan. Step bar. Marker. StartIndicates the currently active step bar. Flashes while the SWR is being measured.Note During split frequency operation, programmedAll 105 memory channels are tuneable which meansIndependent transmit and receiveIn addition, tone frequencies orYes. Yes.

Scan edgesOne frequency and one mode inYes. NoYes. NoAny unnecessary memory channels can be cleared. The cleared memory channels become blank channels.VFO mode.All memory channels including scan edges and theAll common keyboard characters ASCII charactersG4 display.The memo pads are separate from memory channels. The default number of memo pads is 5, however, thisWhen you write a 6th frequency and operating mode,Note Each memo pad must have its own uniqueYou can simply call up the desired frequency andWhen you call up a frequency and an operatingThe frequency and operating mode in the temporary padNote If you change the frequency or operating modeMemo pads are convenient when you want to memorize a frequency and operating mode temporarily, suchUse the transceiver's memo pads instead of relying onFor memory scan Program 2 or more memory channels except scan edge memory channels. For memory select scan Designate 2 or more memory channels as select memory channels—select aFor priority watch Program 1 memory channel to beScan speed can be selected from 2 levels, high or low,You can select the scan to resume or cancel whenScan stops when detecting a signal. If you set scan resume ON in initial set mode. SQUELCH the scan pauses for 10 sec.CLOSED signal, then resumes. When a signal disappears while scan is paused, scan resumes 2OFF, pauses or ignores it depending on theNote If the same frequencies are programmed intoNote Two or more memory channels must be programmed for memory scan to start.Note Two or more memory channels must be designated as select memory channels for select memoryNote The paused condition when detecting a signalThe transceiver can be connected through an optional CT17 CIV LEVEL CONVERTER to a personal computer equipped with an RS232C port. The Icom. Communication interfaceV CIV controls the following functions of the transceiver. Up to four Icom CIV transceivers or receivers can beRS232C port. See p. 54 for setting the CIV conditionD Data format.

The CIV system can be operated using the followingA data area is added for some commands.Send frequency data. Send mode data. Read band edge frequencies. Read display frequency. Read display mode. Set frequency data. Set LSB. Set USB. Set AM. Set CW. Set RTTY. Set FM. Set WFM. Set to VFO. Set to VFO A. Set to VFO B. Switch VFO A and B. Set to memory mode. Mch. Memory write. Memory to VFO. Memory clear. Read duplex offset frequency. Set duplex offset frequencyCnScan stop. Scan start. Split OFF. Split ON. Simplex mode. Duplex modeRead squelch condition. Read Smeter level. Preamp setting. AGC setting. NB setting. TONE setting. TSQL setting. COMP setting. VOX setting. BKIN setting. Read transceiver ID codeThe IC706MKIIG has 2 separate set modes quick set modeD Quick set mode operationD Initial set mode operationThis item adjusts the RF output power. The RF output power can be adjusted from L, 1 to 9 and H forThis item adjusts the

CW pitch. CW pitch is This item selects the RTTY tone. RTTY tone is toggled between 1275, 1615 and 2125 Hz. This item adjusts break-in delay time for CW semi This item adjusts the RTTY shift. There are 3 selectable values 170, 200 and 425 Hz. This item adjusts the RTTY keying. Normal or This item adjusts the CW paddle type. Four selections are available. This item adjusts the CW key speed. The key speed Q6 CARRIER Freq This item adjusts the carrier frequency BFO frequency, allowing you to change the audio characteristics. This item adjusts the CW key ratio or weight. The This item selects a subaudible tone for FMT mode There are 50 tones This item adjusts sets a subaudible tone for tone During repeater operation, you can detect the tone During tone squelch operation, you can detect the This item is available in all modes, and allows you to For example if you are operating mobile and only SELECT" to inhibit access to all other modes SSB, CW, RTTY, WFM, thereby making selection of AM or FM quick and easy. A beep sounds each time a switch is pushed to confirm it.

This function can be turned OFF for silent A beep sounds when an operating frequency enters This functions The function display backlighting can be set to high, The auto power OFF function can be used to automatically turn the transceiver OFF after a specified When an optional filter is installed, this selection is Selections available are FL100, FL101, FL103, FL223, FL232 and none default. See p. 22 for When an optional filter is installed, this selection is Selections available are FL100, FL101, FL103, FL223, FL232 and none default. See p. 22 for When the peak hold function is ON, the highest activated segment of the meter remains visible for 0.5 VFO frequency plus the split offset or duplex offset, When this item is ON the main dial can be used to This item sets the offset difference between transmit This item sets the offset for the duplex function when This item sets the offset for the duplex function when This item sets the offset for the duplex function when This item sets the offset for the duplex function when This item sets the offset direction when using the When this item is set to "on 1", the tone encoder is This item sets the scan resume function ON or OFF. ON scan resumes 10 sec. For the priority watch, setting to OFF pauses the watch until signal disappears and scan resumes. This item sets the rate at which channels or frequencies are scanned during scan operations. High or low This item sets the rate at which frequencies are When this item is set to ON, the noise blanker function is available in AM mode. This is useful when This item sets the number of memo pad channels When this item is set to "on," the set output power is The optional AT180 ANTENNA TUNER has an automatic start capability which starts tuning if the SWR. When "OFF" is selected, the tuner remains OFF even.

When "on" is selected, automatic tune starts even When an optional AH4 ANTENNA TUNER is connected, tuning can be started automatically at the This is used to change the communications speed When the optional UT102 VOICE SYNTHESIZER UNIT is Japanese as the language. When the optional UT102 VOICE SYNTHESIZER UNIT is When an optional UT102 SPEECH SYNTHESIZER UNIT To distinguish equipment, each CIV transceiver has The IC706MKIIG's address is 4EH. When 2 or more IC706MKIIG's are connected to an This item sets the data transfer rate. When "Auto" is Transceive operation is possible with the IC706MKIIG connected to other Icom HF transceivers When connecting the IC706MKIIG to the IC735 for Caution Disconnect the DC power cable from the The IC706MKIIG has 2 types of fuses installed for This fuse is All of the CPU's memory is backed up by an EEPROM Electronically Erasable Programmable Read Only Memory. All data you set, such as VFO, memory, set mode contents, etc. There is no internal lithium battery. If the transceiver becomes dusty or dirty, AVOID the use of strong chemical solvents If you are unable to locate the cause of a problem or The UT102 announces the accessed band's frequency, mode, etc. Smeter level can also be PLL unit in place. Several IF filters are available for the IC706MKIIG. Choose a filter most appropriate to your operating Note After filter installation, specify the installed filter Otherwise, the UT106 on the PLL unit bottom side. J1413 on the MAIN unit. D Operation. Refer to the instructions supplied with the UT106 for The optional MB72 CARRYING HANDLE is convenient HF band operation. Select a suitable condition SW Position. Operation. The tuner operating condition is set by S2 SWR is obtained at any given time. For SSB mode, the same

condition as the ACC cable DIN 13 pins Caution. The transceiver has been D Bottom view Has automatic tuning Full break in QSK operation is possible. The OPC599 is necessary to connect the IC706MKIIG to the ICPW1.

Fully automatic antenna tuner with preset Unique "automatic tuner on" function is available. See Automatically selects the antenna for the Manual selection Including 2 connection cables for simultaneous connection of 2 transceivers. Has. The OPC589 is Allows you to conveniently vehicle mount MB63 must be used in combination with Height can be adjusted for your convenience. External speakers suitable for mobile operation. Equipped with 4 types of audio filters, a VHF transceiver for instant satellite communications. For remote transceiver control using a personal computer equipped with an RS232C Receive squelched SSB, CW, AM, RTTY Double conversion superheterodyne PDF Version 1.2. Linearized No. Page Count 72. Create Date 19981212 151306. Author.. Yasunobu. Producer Acrobat PDFWriter 3.0 for Power Macintosh. Manual and User Guide for many equipments like mobile phones, photo cameras, motherboard, monitors, software, tv, dvd, and others. IC706MKIIG.qxd 02.3.27 1353 Page 1 Next Page 2 e Spare fuse 30 A IC706MKIIG.qxd 02.3.27 1353 Page iPage 21 IC706MKIIG.qxd 02.3.27 1353 Page 18Page 22 IC706MKIIG.qxd 02.3.27 1353 Page 19Page 23 IC706MKIIG.qxd 02.3.27 1353 Page 20Page 26 IC706MKIIG.qxd 02.3.27 1353 Page 23Page 27 IC706MKIIG.qxd 02.3.27 1353 Page 24Page 30 IC706MKIIG.qxd 02.3.27 1353 Page 27Page 36 IC706MKIIG.qxd 02.3.27 1353 Page 33Page 45 IC706MKIIG.qxd 02.3.27 1353 Page 42Page 46 IC706MKIIG.qxd 02.3.27 1353 Page 43Page 49 IC706MKIIG.qxd 02.3.27 1353 Page 46Page 53 IC706MKIIG.qxd 02.3.27 1353 Page 50Page 55 IC706MKIIG.qxd 02.3.27 1353 Page 52Page 57 IC706MKIIG.qxd 02.3.27 1353 Page 54Page 58 IC706MKIIG.qxd 02.3.27 1353 Page 55Page 65 IC706MKIIG.qxd 02.3.27 1353 Page 62Page 66 13 S P E C I F I C A T I O N S IC706MKIIG.qxd 02.3.27 1353 Page 63Page 67 IC706MKIIG.qxd 02.3.27 1353 Page 64Page 71 IC706MKIIG.qxd 02.3.27 1353 Page 68Page 73 ABOUT CEPage 74 INSTALLATION NOTES.

For amateur base station installations it is recom Forward clearance, EIRP by frequency bandPage 75 ABOUT SP7 EXTERNAL SPEAKER. If the SP7 external speaker is used with the IC706MKIIG, please install the fer.

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