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You can read the recommendations in the user guide, the technical guide or the installation guide for ICOM IC 7100. You'll find the answers to all your questions on the ICOM IC 7100 in the user manual (information, specifications, safety advice, size, accessories, etc.). Detailed instructions for use are in the User's Guide.

User manual ICOM IC 7100
User guide ICOM IC 7100
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Instruction manual ICOM IC 7100



HF/VHF/UHF ALL MODE TRANSCEIVER
IC-7100



This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

WARNING: MODIFICATION OF THIS DEVICE TO RECEIVE CELLULAR SIGNALS BEFORE SERVICE BUREAU IS PROHIBITED UNDER FCC RULES AND FEDERAL LAW.

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Manual abstract:

"Many hours of research and development went into the design of your IC-7100. EXPLICIT DEFINITIONS WORD R DANGER! R WARNING! CAUTION NOTE DEFINITION Personal death, serious injury or an explosion may occur. Personal injury, fire hazard or electric shock may occur. Equipment damage may occur. Recommended for optimum use. No risk of personal injury, fire or electric shock. FEATURES □ □ F DSP features I □ □ II mode capability covering 160–2 m and A 70 cm (depending on version) □ □ ompact with separated front panel C □ □ 0.5 ppm of high frequency stability ± □ □ audot RTTY demodulator B □ □ electable SSB transmission passband S width (For both higher and lower pass frequency) □ □ tandard voice synthesizer/voice recorder S □ □ D card slot ready for several memory S storage □ □ oice recorder to records your communication V □ □ V mode (Digital voice + Low-speed data D communication) operation-ready – Text message and call sign exchange – Transmit position data □ □ R (D-STAR Repeater) mode and repeater D list allow you to easily operate using a D-STAR repeater Spurious signals may be received near some frequencies. These are created in the internal circuit and does not indicate a transceiver malfunction. Icom, Icom Inc.

@@@ If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: • Reorient or relocate the receiving antenna. • Increase the separation between the equipment and receiver. • Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. • Consult the dealer or an experienced radio/TV technician for help. CAUTION: Changes or modifications to this device, not expressly approved by Icom Inc.

, could void your authority to operate this device under FCC regulations. "AI" means "Advanced Instructions." "sec. MM" means section number. So when "AI sec.

MM)" is described on this manual, see the PDF type Advanced Instruction's section number for your reference. i PRECAUTIONS R DANGER HIGH VOLTAGE! NEVER touch an antenna or internal antenna connector during transmission. This may result in an electrical shock or burn. R WARNING RF EXPOSURE! This device emits Radio Frequency (RF) energy. Extreme caution should be observed when operating this device. If you have any questions regarding RF exposure and safety standards please refer to the Federal Communications Commission Office of Engineering and Technology's report on Evaluating Compliance with FCC Guidelines for Human Radio Frequency Electromagnetic Fields (OET Bulletin 65). DO NOT operate the transceiver near unshielded electrical blasting caps or in an explosive atmosphere. DO NOT use harsh solvents such as benzine or alcohol to clean the transceiver, as they will damage the transceiver's surfaces. If the transceiver becomes dusty or dirty, wipe it clean with a soft, dry cloth. DO NOT use or place the transceiver in areas with temperatures below -10°C (+14°F) or above +60°C (+140°F).

Be aware that temperatures on a vehicle's dashboard can exceed +80°C (+176°F), resulting in permanent damage to the transceiver if left there for extended periods. DO NOT place the transceiver in excessively dusty environments or in direct sunlight. R WARNING! NEVER operate the transceiver while driving a vehicle. Safe driving requires your full attention— anything less may result in an accident. DO NOT place the transceiver against walls or putting anything on top of the transceiver. This will obstruct heat dissipation. Place the transceiver in a secure place to avoid inadvertent use by children. During mobile operation, NEVER place the transceiver where air bag deployment may be obstructed. During mobile operation, DO NOT place the transceiver where hot or cold air blows directly onto it. During mobile operation, DO NOT operate the transceiver without running the vehicle's engine.

When the transceiver's power is ON and your vehicle's engine is OFF, the vehicle's battery will soon become exhausted. Make sure the transceiver power is OFF before starting the vehicle engine. This will avoid possible damage to the transceiver by ignition voltage spikes. During maritime mobile operation, keep the transceiver and microphone as far away as possible from the magnetic navigation compass to prevent erroneous indications. R WARNING! NEVER operate the transceiver with an earphone, headphones or other audio accessories at high volume levels.

Hearing experts advise against continuous high volume operation. If you experience a ringing in your ears, reduce the volume level or discontinue use. R WARNING! NEVER apply AC power to the [DC13.8V] connector on the transceiver rear panel. This could cause a fire or damage the transceiver. R WARNING! NEVER apply more than 16 V DC to the [DC13.8V] connector on the transceiver rear panel or use reverse polarity. This could cause a fire or damage the transceiver. R WARNING! NEVER cut the DC power cable between the DC plug and fuse holder. If an incorrect connection is made after cutting, the transceiver might be damaged. R WARNING! NEVER let metal, wire or other objects touch any internal part or connectors on the rear panel of the transceiver. This may result in an electric shock or this could cause a fire or damage the transceiver. BE CAREFUL! The rear panel will become hot when operating the transceiver continuously for long periods of time. R WARNING! NEVER operate or touch the transceiver with wet hands. This may result in an electric shock or may damage the transceiver.

R WARNING! Immediately turn the transceiver power OFF and remove the power cable if it emits an abnormal odor, sound or smoke. Contact your Icom dealer or distributor for advice. BE CAREFUL! If a linear amplifier is connected, set the transceiver's RF output power to less than the linear amplifier's maximum input level, otherwise, the linear amplifier will be damaged. Use Icom microphones only (supplied or optional). Other manufacturer's microphones have different pin assignments, and connection to the IC-7100 may damage the transceiver. CAUTION: NEVER expose the transceiver to rain, snow or any liquids. CAUTION: NEVER change the internal settings of the transceiver. This may reduce transceiver performance and/or damage to the transceiver. ii SUPPLIED ACCESSORIES The following accessories are supplied with the transceiver. ABOUT THE SUPPLIED CD The following instructions and installers are included on the CD.

• Basic instructions □ Instructions for the basic operations, the same as this manual • Advanced Instructions □ Instructions for the advanced operations and more details are described than in this manual • Schematic diagram Includes the schematic and block diagrams • HAM radio Terms A glossary of HAM radio terms • Adobe® Reader® Installer Installer for Adobe® Reader® q Hand microphone .



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For European versions.....

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..... 2 * Depending on the version. q w e qgInsert the CD into the CD drive.

• Double click "Autorun.exe" on the CD. D • Depending on the PC setting, the Menu screen shown D below is automatically displayed. DDStarting the CD r
y u wwClick the desired button to open the file. • To close the Menu screen, click [Quit]. T t i o Opens the Advanced Instructions !0 Opens the Basic
Instructions (this manual) Opens the Schematic diagram For European versions y e Installs the Adobe® Reader® Opens the Glossary Quits the menu screen
(See p. 2-7 for installation details) To read the guide or instructions, Adobe® Reader® is required. If you have not installed it, please install the Adobe®
Reader® on the CD or downloaded it from Adobe Systems Incorporated's website. A PC with the following Operating System is required. • Microsoft®
Windows® 8, Microsoft® Windows® 7, MiM crosoft® Windows Vista® or Microsoft® Windows® XP iii Section 1 PANEL DESCRIPTION Controller —
Front panel.

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.....1-2 Controller — Function display....

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....1-7 Controller — Multi-function keys.....

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.....1-10 DD M-1 (M-1 menu) Display. .

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.....1-10 DD M-2 (M-2 menu) Display. ...

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...1-10 DD M-3 (M-3 menu) Display.

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..1-10 DD D-1 (D-1 menu) Display.

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.1-10 DD D-2 (D-2 menu) Display.

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1-10 DD Function keys on M-1 display.....

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.1-10 DD Function keys on M-2 display.....

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..1-10 DD Function keys on M-3 display...

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...1-11 DD Function keys on D-1 display.....

.....I-17 Microphone..

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..I-18 DD HM-198 (Supplied)...

.T function is turned ON. L lights orange when the [M-CH/BANK] controls L act as the RIT control. • Push the [M-CH] P switch to select RIT control. • The RIT control is the inner control. The outer control T is disabled. i RIT KEY RIT (AI sec. 5) push to turn the RIT function ON or OFF. P • Use the [M-CH] U control to vary the RIT frequency. hold down for 1 second to add the shift frequency H of the RIT function to, or subtract it from, the displayed frequency.

o ANTENNA TUNER/CALL KEY TUNER/CALL ANTENNA TUNER KEY Operation (AI sec. 16) (Frequency band: HF/50 MHz) push to turn an optional automatic antenna P tuner ON or OFF (bypass). hold down for 1 second to manually tune the H antenna tuner. • If the tuner cannot tune the antenna within 20 seconds, the tuning circuit is automatically bypassed. hold down the window. P ATTENUATOR KEY Operation (AI sec. 5) hold down for 1 second to turn ON the attenuator. • "ATT" appears when the attenuator is ON. • "ATT" disappears. push to turn OFF the attenuator. P What is the attenuator? The attenuator prevents a desired signal from being distorted when very strong signals are near it, or when very strong electromagnetic fields, such as from a broadcasting station, are near your location. !4 NOISE REDUCTION KEY NR (AI sec. 5) N Push to turn DSP noise reduction ON or OFF. • "NR" appears when noise reduction is ON. hold down for 1 second to display the "NR" screen.

H Push to return to the previous screen. • Rotate the Dial to adjust the DSP noise reduction R level. Set for maximum readability. 1-4 PANEL DESCRIPTION !6 NOTCH KEY NOTCH (AI sec. 5) (Mode = Auto notch: SSB/AM/FM Manual notch: SSB/CW/RTTY/AM) the SSB and AM modes, push to toggle the In notch function between auto, manual and OFF.

• Either the Auto or Manual notch function can be turned OFF in the "[NOTCH] Switch (SSB)/(AM)" items of the "Function" Set mode. (6-21) SET > Function > [NOTCH] Switch (SSB) SET > Function > [NOTCH] Switch (AM) !9 QUICK MENU KEY QUICK push to open or close the Quick Menu window. P In the setting screen, push to open the Default I set window. • Touch "Default" to reset to the default setting. T • The Quick Menu is used to quickly select various T functions. the FM mode, push to turn the Auto Notch function ON or OFF. In the CW or RTTY mode, push to turn the Manual I Notch function ON or OFF. • "MN" appears when the Manual Notch function is "ON". • "AN" appears when the Auto Notch function is ON. • o indicator appears when the notch filter is OFF.

N @0 AUTO TUNE•RX<CS KEY AUTO TUNE RX<CS AUTO TUNE KEY Operation (AI sec. 4) (Mode: CW) push to automatically adjust for a zero beat P with the received signal. Zero beat means that two signals are exactly the same frequency. • "AUTO TUNE" blinks when the auto tune function " is activated. • When the RIT function is ON, the auto tune function changes the RIT frequency, not the displayed frequency. hold down for 1 second to display the "NOTCH" H screen. Push to return to the previous screen. • Rotate the Dial to adjust the notch frequency to reject R an interfering signal when the manual function is ON. • Notch filter center frequency: SSB/RTTY: -1040 Hz to +4040 Hz CW: CW pitch frequency -2540 Hz to CW pitch frequency +2540 Hz AM: -5060 Hz to +5100 Hz X CALL SIGN CAPTURE KEY Operation R (p. 5-6) (Mode: DV, when the DR mode is selected) push to open the "RX>CS" screen.

P Push again to return to the previous screen. hold down for 1 second to set the received call H signs (station and repeaters) as the operating call sign. @1 TRANSMIT FREQUENCY CHECK KEY XFC uring split frequency or repeater operation, hold D down to listen to the transmit frequency. (AI sec. 4) • While holding down this switch, the transmit frequency can be changed with the Dial or MPAD .

• When the Split Lock function is turned ON in the Split W operation, hold down XFC to cancel the Dial lock function. What is the notch filter? The notch filter is a narrow filter that eliminates unwanted CW or AM carrier tones, while preserving the desired voice signal. The DSP circuit automatically adjusts the notch frequency to effectively eliminate unwanted tones. !7 DR MODE KEY DR (section 4, 5, AI sec. 9) Push to select the DR mode. • When the DR mode is selected, the transceiver automatically selects the DV mode. • The transceiver returns to the previous screen before T entering the DR mode.



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When operating simplex, hold down to monitor W the frequency. When holding down this key, the squelch is open and W the interference reject function is temporarily turned OFF. In the DR mode, push to cancel it. 18 SET MODE KEY SET (section 6) Push to enter or exit the SET mode. Voice Memo, "Call Sign," "RX History," "DV Memory," "My Station," "DV Set," "GPS," "SPEECH," "QSO/RX Log," "Function," "Tone Control," "Connectors," "Display," "Time Set," "SD Card" and "Others" set group are selectable. When operating simplex and the RIT function is W turned ON, hold down to listen to the transmit frequency. The frequency is the same as when the RIT is OFF. In the DV mode, hold down this key to select the I RX monitoring mode.

(p. 6-3) 1-5 1 PANEL DESCRIPTION Controller — Front panel (Continued) PWR AF RF/SQL i7100 TX / RX CLR M-CH BANK @5 @4 PBT RIT RIT TUNER/CALL MENU MIC/RF PWR NB SPEED/PITCH NR P.AMP ATT NOTCH DR SET QUICK AUTO TUNE RX CS XFC SPEECH MPAD @2 @3 @2 SPEECH LOCK KEY SPEECH SPEECH KEY Operation (p. 3-20) Push to audibly announce the S-meter level, the displayed frequency and the operating mode. The S-Level announcement can be turned OFF in the T "S-Level SPEECH" item of the "SPEECH" Set mode. (p. 6-4) SET > SPEECH > S-Level SPEECH When RIT is ON, the RIT offset is not included in the W frequency announcement. @3 MEMO PAD KEY MPAD (AI sec. 11) Push to sequentially call up the contents from the P memo pad. The 5 (or 10) most recently programmed frequencies and operating modes can be recalled, starting from the most recent.

The memo pad capacity can be increased from 5 to T 10 in the "Memopad Numbers" item of the "Function" Set mode (p. 6-6) SET > Function > Memopad Numbers LOCK KEY Operation (AI sec. 5) Hold down for 1 second to turn the Lock function ON or OFF. The function electronically locks the Dial. T " " appears when the function is ON.

You can select the Dial lock and Panel lock in the Y "Lock Function" item of the "Function" Set mode. (p. 6-6) SET > Function > Lock Function Hold down for 1 second to write the displayed H data into a memo pad. The 5 most recent entries remain in the memo pad. T @4 MAIN DIAL Rotate to change the displayed frequency, select the Set mode settings, and so on.

@5 MAIN DIAL TENSION LATCH Select the Dial drag. Three positions are selectable. The top setting turns on T clicks as the dial is turned. N OTE: The [SPEECH/LOCK] key operation to activate the voice synthesizer or the Lock functions can be replaced in the "[SPEECH/LOCK] Switch" item of the "Function" Set mode. (p. 6-6) SET > Function > Lock Function 1-6 PANEL DESCRIPTION 1 Controller — Function display q w e r t y u i q TX ICON Indicates either the displayed frequency can be transmitted, or not. " " appears while the operating frequency is in an amateur band. " " appears while the operating frequency is not in an amateur band. However, when the "Band Edge Beep" item is set to "OFF" in the "Function" Set mode (p. 6-5), " " does not appear.

SET > Function > Band Edge Beep (Mode: DV) DSQL appears when the digital call sign squelch "function is ON. (AI sec. 9) CSQL appears when digital code squelch function is ON. (AI sec. 9) IF FILTER ICON (AI sec. 5) Shows the selected IF filter. Touch to select one of three IF filter settings. T The selected filter passband width and shifting value T are displayed for 2 seconds in the window. LMT appears while the output power is decreased because the Power FET's temperature is high. HOT appears while transmission is inhibited because the Power FET's temperature is too high.

w MODE ICONS (p. 3-17) Displays the selected operating mode. -D appears when SSB data, AM data or FM data "mode is selected. n the Mode selection screen, touch the block to select the operating mode. Touch for 1 second to display the "FILTER" screen T to adjust the filter passband width.

When the "FILTER" screen is displayed, touch for 1 second to return to the previous screen. y UICK TUNING ICON (p. 3-8) Q Appears when the Quick tuning mode is selected. When "Z" is displayed, the frequency changes in preset W kHz or 1 MHz quick tuning steps. When "Z" is not displayed, the frequency changes in 10 W Hz or 1 Hz steps.

Touch to enter the Mode selection screen. e PASSBAND WIDTH ICON (AI sec. 5) Graphically displays the passband width for twin PBT operation and the center frequency for IF shift operation. r TONE SQUELCH/DIGITAL SQUELCH ICONS (Mode: FM) TONE appears when the repeater tone function "is ON. (AI sec. 4) TSQL appears when the tone squelch function "is ON. (AI sec. 4) DTCS appears when the DTCS function is ON. (AI sec. 4) u GPS ICON (AI sec.

10) appears when valid position data is received from A a GPS receiver that is connected to the [DATA1] jack. links when invalid data is received from the GPS B receiver. i SD CARD ICON " appears when an SD card is inserted. " and " alternately blink while accessing the "SD card.

1-7 1 PANEL DESCRIPTION Controller — Function display (Continued) o !0 !1 !2 !9 !8 !3 !4 !5 !6 !7 o CLOCK READOUT Shows the current time. UTC time or local time can be selected. !4 MEMORY CHANNEL READOUT (AI sec. 11) Shows the selected memory channel, scan edge channel or Call channel. Memory bank indicator (A to E) appears to the left of M memory channel. !0 SPLIT ICON (AI sec.

6) " appears when the Split function is turned ON. !1 LOCK ICON (AI sec. 5) " appears when the Lock function is activated. !4 TUNING DIAL SPEED ICON (p. 3-10) (Mode: SSB-D/CW/RTTY) " appears when the tuning dial speed is set so that one rotation is equal to 1/4 of the normal rotation. his function is selectable only when the quick tuning T function is turned OFF. Touch to toggle between the VFO and Memory T modes. !5 SELECT MEMORY CHANNEL ICON " appears when the selected memory channel is set as a select memory channel.



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(AI sec. 12) !6 **INFORMATION READOUT I** □ Displays the transmit frequency of the Split operation, descriptions of the memory channel or Received Call sign in the DV mode, and so on.

!7 **FUNCTION DISPLAY** (p. 1-10) □ Shows the function of the Touch keys. S • □ Push MENU to change the set of functions assigned to P the touch keys. • □ toggles the function display menu between M-1, M-2 and T M-3 menus or D-1 and D-2 menus. !2 **FREQUENCY READOUTS** □□ Displays the operating frequency. □□ □ Touch the MHz digits to enter the Band selection T screen. □□ □ Touch the MHz digits for 1 second to turn the 1 T MHz quick tuning mode ON or OFF. □□ □ Touch the kHz digits to turn the preset kHz quick T tuning mode ON or OFF. □□ □ Touch the kHz digits for 1 second to enter the TunT ing step selection screen. □□ □ Touch the Hz digits to for 1 second to toggle beT tween 10 Hz and 1 Hz steps.

!3 **VFO/MEMORY ICONS** (p. 3-4) □□ □ VFOA” or “VFOB” appears whether VFO A or “VFO B is selected. □□ □ MEMO” appears when the memory mode is se“ lected. !8 **MULTI-FUNCTION METER INDICATION** □□ □ Displays the signal strength while receiving. □□ □ Displays the relative output power, SWR, ALC or compression levels while transmitting. □□ □ When the Meter Peak Hold function is ON, the peak level of a received signal strength or the output power is displayed for approximately 0.5 seconds. □□ □ Touch to select the RF power, SWR, ALC or Compression meter. □□ □ Touch for 1 second to display the Multi-function meter. 1-8 **PANEL DESCRIPTION 1** !9 **FUNCTION ICONS** □□ □ VOX” appears when the VOX function is activat“ ed. (AI sec. 6) □□ □ he Break-in icons appear when the Break-in T function is turned ON. (AI sec. 6) • □ F-BKIN” appears when the Full Break-in function is “ turned ON. • □ BK-IN” appears when the Semi Break-in function is “ turned ON. (Mode: DV) ” appears when the EMR (Enhanced Moni□□ □ □ “ tor Receive) communication mode is selected. (AI sec. 9) • □ n the EMR communication mode, no call sign setting I is necessary when operating in the DV mode. □□ □ “ blinks when receiving an EMR signal. □□ □ “ ” appears when the BK (Break-in) function is turned ON. (AI sec. 9) • □ he BK function allows you to break into a conversaT tion where the two other stations are communicating with call sign squelch enabled. □□ □ “ blinks when receiving a break-in call. □□ □ he Preamp icons appear when a preamplifier is T turned ON. (AI sec. 5) • □ n the HF, 50/70 MHz frequency band, either I “P.AMP1” or “P.AMP2” is displayed when preamp 1 or preamp 2 is ON. • □ n the 144/430 MHz frequency band, “P.AMP” is disl played when the preamp is ON. □□ □ ATT” appears when the Attenuator function is “ turned ON. (AI sec. 5) □□ □ he AGC icons display the selected AGC time T constant. (AI sec. 5) • □ AGC-F” for AGC fast; “AGC-M” for AGC mid; “AGC-S” “ for AGC slow; “AGC-OFF” for AGC OFF. • □ n the FM, WFM and DV mode, “AGC-F” for AGC fast I is fixed. □□ □ DUP+” appears when plus duplex, “DUP –” ap“ pears when minus duplex (repeater) operation is selected. (AI sec. 4) □ □ RIT” and the shift frequency are displayed when “ the RIT function is turned ON. (AI sec. 5) □□ □ “ ” appears when the Speech Compressor function is turned ON. □□ □ “ ” appears when the Noise Blanker function is turned ON. (AI sec. 5) □□ □ “ ” appears when the Noise Reduction function is turned ON. (AI sec. 5) □□ □ he Notch icons appear when the Notch filter T function is turned ON. (AI sec. 5) (Mode: SSB/CW/RTTY/AM) • □ “ ” appears when the Manual Notch function is turned ON. • □ “ ” appears when the Automatic Notch function is turned ON. (Mode: SSB/AM/FM) □□ □ “ ” appears when priority scan is turned ON. (AI sec. 12) □□ □ “ ” appears when the VSC (Voice Squelch Control) function is turned ON. 1-9 1 **PANEL DESCRIPTION Controller** — Multi-function keys □□□ ush MENU to change the set of functions assigned P to touch keys. • □ oggles the function display menu between M-1, M-2 and T M-3 menus or D-1 and D-2 menus. • Functions vary, depending on the operating mode. • □ n the DR mode, the D-1 and D-2 menus can be selectI ed. DDFunction keys on M-1 display SCAN KEY [SCAN] (AI sec. 12) Touch to display the “SCAN” screen. • □ ush MENU to return to the previous screen. P □□□□ ouch or touch for 1 second to select the displayed T functions.

SPLIT KEY [SPLIT] (AI sec. 6) □ □ Touch to turn the split function ON or OFF. T • □ “ ON. ” appears when the split function is DDM-1 (M-1 menu) Display DDM-2 (M-2 menu) Display (Mode: SSB) □ □ Touch for 1 second to activate the quick T split function. • □ he transmit frequency shifts from the receive T frequency according to the “SPLIT Offset” option in the “Function” Set mode. (AI sec. 6) SET > Function > SPLIT/DUP > SPLIT Offset • □ he quick split function can be turned OFF in T the “Quick SPLIT” item of the “Function” Set mode. (AI sec. 6) SET > Function > SPLIT/DUP > Quick SPLIT (Mode: SSB-D) (Mode: CW) (Mode: RTTY) (Mode: AM/AM-D) (Mode: FM/FM-D/WFM) (Mode: DV) **VFO SELECT KEY [A/B]** (p. 3-5) □ Touch to select either VFO A or VFO B. □ □ Touch for 1 second to equalize the undisT played VFO settings to that of the displayed VFO. **VFO/MEMORY KEY [V/M]** □ □ Touch to switch between the VFO and T memory modes. (p. 3-4) • □ ouching Memory channel also selects the T VFO or memory modes. **DDM-3 (M-3 menu) Display** (Mode: SSB/AM/AM-D) (Mode: SSB-D/RTTY) (Mode: CW) □ □ Touch for 1 second to copy the memory T contents to the displayed VFO. (AI sec. 11) **MEMORY WRITE KEY [MW]** (AI sec. 11) □ ouch for 1 second to store VFO data into the T selected memory channel. • □ his can be done in both the VFO and memory T modes. DDFunction keys on M-2 display (Mode: FM/FM-D/WFM/DV) **DUPLEX KEY [DUP]** (AI sec. 4) □ □ Touch to select the duplex direction, or to T turn OFF the function. • □ DUP–” or “DUP+” is displayed during duplex “ operation. **DDD-1 (D-1 menu) Display** (Mode: DV, when the DR mode is selected) **DDD-2 (D-2 menu) Display** □ □ n the FM mode, touch for 1 second to I turn the one-touch repeater function ON or OFF. (Mode: DV, when the DR mode is selected) 1-10 **PANEL DESCRIPTION 1 AGC KEY [AGC]** (AI sec. 5) (Mode: SSB/SSB-D/CW/RTTY/AM/AM-D) □ Touch to select the time constant of the □ AGC circuit. □ □ Touch for 1 second to display the “AGC” T screen.



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• Push MENU to return to the previous screen. P RTTY SET KEY [RTTY] (AI sec. 6) Touch to display the “RTTY SET” screen. • Push MENU to return to the previous screen.

P CALL SIGN KEY [CS] (AI sec. 4) (Mode: DV) Touch to display the “CALL SIGN” screen. • The current call sign for DV operation appears. • Push MENU to return to the previous screen. P TONE SQUELCH KEY [TONE] (AI sec. 4) (Mode: FM) Touch to select a tone function between subaudible (repeater) tone, tone squelch and DTCS. Touch for 1 second to display the “TONE” T screen of the selected tone function. • Push MENU to return to the previous screen. P TRANSMISSION BANDWIDTH KEY [TBW] (AI sec. 6) (Mode: SSB) Touch to display the selected transmission T bandwidth.

Touch for 1 second to select the transmission bandwidth. • Bandwidth is selectable from wide (WIDE), B mid (MID) and narrow (NAR). I4 TUNING FUNCTION KEY [I4] (p. 3-10) (Mode: SSB-D/CW/RTTY) Touch to turn the I4 Tuning function ON or T OFF. DIGITAL SQUELCH KEY [DSQL] (AI sec. 9) (Mode: DV) Touch to select a digital squelch function between digital call sign squelch and digital code squelch. Touch for 1 second to display the “DSQL” T screen (digital squelch). • Push MENU to return to the previous screen. P “ ” is displayed when the I4 Tuning function is ON. VOICE RECORDER KEY [VOICE] (AI sec.

15) (Mode: SSB/AM/FM/DV) This function requires to insert an SD card. Touch to display the “VOICE TX” screen or T the “VOICE” (Root) screen, depending on the “VOICE 1st Menu” option in the “Function” Set mode (p. 6-6). SET > Function > VOICE 1st Menu • Push MENU to return to the previous screen. P CALL RECORD KEY [CD] (AI sec. 9) (Mode: DV) Touch to display the “RX HISTORY” screen. • The call record channel appears. (RX01 to T RX20) • Push MENU to return to the previous screen. P DDFunction keys on M-3 display MEMORY NAME KEY [MEMO] (AI sec. 11) Touch to display the “MEMO” (Memory menu) T screen.

• Push MENU to return to the previous screen. P MEMORY KEYS KEY [KEYER] (AI sec. 4) (Mode: CW) Touch to display the “KEYER SEND” screen T or the “KEYER” (Root) screen, depending on the “KEYER 1st Menu” option in the “Function” Set mode (p. 6-6). SET > Function > KEYER 1st Menu • Push MENU to return to the previous screen. P BAND SCOPE FUNCTION KEY [SCOPE] (AI sec. 5) Touch to display the “SCOPE” (Band scope) T screen. SWR GRAPH FUNCTION KEY [SWR] (AI sec. 6) Touch to display the “SWR” screen. • Push MENU to return to the previous screen.

P RTTY DECODER KEY [DEC] (AI sec. 4) Touch to display the RTTY Decoder screen. • Push MENU to return to the previous screen. P SPEECH COMPRESSOR KEY [COMP] (AI sec. 6) (Mode: SSB) Touch to turn the speech compressor function ON or OFF.

• “ ” is displayed when the speech compressor is ON. DTMF MODE KEY [DTMF] (AI sec. 6) (Mode: FM/FM-D/DV) Touch to display the “DTMF” screen. T • Push MENU to return to the previous screen. P Touch for 1 second to display the “COMP” T screen.

• Push MENU to return to the previous screen. P 1-11 1 PANEL DESCRIPTION Controller — Multi-function keys DD Function keys on M-3 display (Continued) VOX KEY [VOX] (AI sec. 6) (Mode: SSB/AM/FM/DV) Touch to turn the VOX function ON or T OFF. Touch for 1 second to display the “VOX” T screen. • Push MENU to return to the previous screen. P VOICE RECORDER KEY [VOICE] (AI sec. 15) This function requires to insert an SD card. Touch to display the “VOICE TX” screen or T the “VOICE” (Root) screen, depending on the “VOICE 1st Menu” option in the “Function” Set mode (p. 6-6). SET > Function > VOICE 1st Menu • Push MENU to return to the previous screen.

P What is the VOX function? The VOX function (voice operated transmission) automatically starts transmission when you speak into the microphone, then automatically returns to receive when you stop speaking. BK-IN KEY [BK-IN] (AI sec. 6) (Mode: CW) Touch to toggle the break-in operation between semi break-in and full break-in, or to turn OFF the break-in function. Touch for 1 second to display the “BKIN” screen (Break-in). Push to return to the previous screen display. What is the break-in function? The break-in function automatically switches between transmit and receive with your CW keying. Using Full break-in function (QSK), you can hear the receive frequency in-between keying. CALL SIGN KEY [CS] (AI sec. 9) Touch to display the “CALL SIGN” screen. • The current call sign for DV operation appears.

• Push MENU to return to the previous screen. P CALL RECORD KEY [CD] (AI sec. 9) Touch to display the “RX HISTORY” screen. • The call record channel appears. (RX01 to T RX20) • Push MENU to return to the previous screen.

P DDFunction keys on D-2 display (Mode: DV) (when the DR mode is selected) MEMORY WRITE SWITCH [MW] (AI sec. 11) Touch to display the Memory channel T screen. • Touch [MW] for 1 second to store the DR mode T data into the selected memory channel. • Push MENU to return to the previous screen. P DDFunction keys on D-1 display (Mode: DV) (when the DR mode is selected) SCAN KEY [SCAN] (AI sec.

12) Touch to start or cancel the Access repeater scan. Touch for 1 second to enter the “SCAN T SET” mode screen. • Push MENU to return to the previous screen. P DIGITAL SQUELCH KEY [DSQL] (AI sec. 9) Touch to select a digital squelch function T between digital call sign squelch and digital code squelch. Touch for 1 second to display the “DSQL” T screen (digital squelch). • Push MENU to return to the previous screen. P DTMF MODE KEY [DTMF] (AI sec. 6) Touch to display the “DTMF” screen. T • Push MENU to return to the previous screen.

P SKIP KEY [SKIP] Touch to set the Skip setting ON or OFF T for the Access repeater scan. • “ ” is displayed when the Skip setting is ON. • When a repeater is set as a skip target, the repeater cannot be selected in “FROM” (Access repeater). VOX KEY [VOX] (AI sec. 6) Touch to turn the VOX function ON or T OFF. Touch for 1 second to display the “VOX” T screen. • Push MENU to return to the previous screen. P What is the VOX function? The VOX function (voice operated transmission) automatically starts transmission when you speak into the microphone; then automatically returns to receive when you stop speaking. 1-12 PANEL DESCRIPTION 1 Controller — Rear and bottom panels Bottom panel Rear panel q w e r Speaker t y u i q HEADPHONE/SPEAKER JACK [PHONES/SP] Plug in standard stereo headphones (impedance: 8 to 16 ϕ).



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• Output power: More than 5 mW with an 8 ϕ load.

• When headphones are connected, the internal speaker, W and any external speaker, are disabled. • When the [PHONES/SP] switch (y) on the bottom panel W is set to the SPEAKER position, an external speaker can be used instead of headphones. This is convenient for mobile or outdoor operation. e MICROPHONE CONNECTOR [MIC] Plug in the supplied or an optional microphone. • See AI sec.

21 for appropriate microphones. • See p. 1-17 for microphone connector information. • The optional OPC-589 cable can be used to connect an T 8-pin microphone such as the SM-30 or SM-50. • The microphone connector is also available on the Main A unit.

DO NOT simultaneously connect two microphones. w ELECTRONIC KEYS JACK [ELEC-KEY] The Plug in a bug or paddle type key to use the internal electronic keyer for CW operation. (AI sec. 4) • Set the keyer type to ELEC-KEY, BUG-KEY or Straight S key in the “Keyer Type” item of the “KEYER SET” mode. • When a straight key is connected, “Straight key” must be W selected in the “Keyer Type” item of the “KEYER SET” mode. (AI sec. 4) • The straight key jack is located on the rear panel. See [KEY] A on pages 1-15 and 2-5. • You can reverse the keyer paddle polarity (dot and dash) Y in the “Paddle Polarity” item of the “KEYER SET” mode. (AI sec.

4) • Four keyer memory channels are available for your convenience. (AI sec. 4) (dot) (com) (dash) r MAIN UNIT CONNECTOR [MAIN UNIT] Connects to the Main unit using with the supplied OPC-2253 Control cable. • The OPC-2253 Control cable is 3.5 meter (11.5 feet) T long. DO NOT use any third party's Ethernet cables. t STAND The length of the stand can be adjusted in two steps. • Adjust to the length not to incline back when you operate A the Front panel. y PHONES/SPEAKER SWITCH [PHONE/SP] Selects the [PHONES/SP] jack to connect a Headphones or external speaker.

u SCREW HOLE FOR STAND Accepts the screw of a tripod stand. (Third party product.) i SCREW HOLES FOR CONTROLLER BRACKET Accepts the screws of the optional MBA-1 Controller bracket. • The MBA-1 is required to install to the optional MBF-1 T Mounting base. A standard 3.

5(d) mm/ 1/8 inch plug 1-13 1 PANEL DESCRIPTION Main unit — Front panel q w q COOLING FAN This is a cooling fan for heat dissipation. Depending on the internal temperature, it rotates at a Low, Mid or High speed. w SD CARD SLOT [SD CARD] Insert an SD card of up to 32 GB SDHC. See AI sec. 13 for details.

Main unit — Rear panel w e r t q y ! 4 ! 3 ! 2 ! 1 ! 0 o i u q ANTENNA CONNECTOR 1 [ANT1] A w ANTENNA CONNECTOR 2 [ANT2] (p. 2-2) A Connect a 50 ϕ antenna with a PL-259 plug connector. • ANT1 is used for the HF, 50/70 MHz frequency bands. [ANT2] is used for the 144/430 MHz frequency bands. [ANT1] is used below 74.8 MHz, and [ANT2] is used for [74.8 MHz or above. r TUNER CONTROL SOCKET [TUNER] (p. 2-6) Connect the control cable from an optional AH-4 hf/ 50 mhz automatic antenna tuner. t DC POWER SOCKET [DC 13.

8V] (p. 2-7) Connect 13.8 V DC through the supplied DC power cable. Rear panel view W When using an optional AH-4 or AT-180 hf/50 mhz automatic antenna tuners , connect it to the [ANT1] connector. e GROUND TERMINAL [GND] (p. 2-2) Connect this terminal to ground to prevent electrical shocks, TVI, BCI and other problems. y CONTROLLER CONNECTOR [CONTROLLER] Connects to the Controller using with the supplied OPC-2253 Control cable. • The OPC-2253 Control cable is 3.5 meter (11.5 feet) T length.

• DO NOT use any third party's Ethernet cables. D 1-14 PANEL DESCRIPTION 1 u STRAIGHT KEY JACK [KEY] (p. 2-5) Connect a straight key or external electronic keyer using a standard 3.5(d) mm/ 1/8 inch plug. • Do not use the internal electronic keyer for CW operation, T connect to [ELEC-KEY] on the Front panel of the Controller.

(p. 1-13) (+) - Remote control operation using the optional RSR BA1 ip remote control software (AI sec. 21) • Two COM port numbers are assigned to the [USB] connector. One of them is “USB1,” used for cloning and CI-V operation. The other one is “USB2,” whose function is selected in “USB2 Function” item of the “Connectors” Set mode.

(p. 6-8) SET > Connectors > USB2/DATA1 Function > USB2 Function () i ACCESSORY SOCKET [ACC] Connect control lines for external equipment such as a linear amplifier, an automatic antenna selector/ tuner, a TNC for data communications, and so on. • See page 1-16 for socket information. About the USB driver: The USB driver and the installation guide can be downloaded from our website. http://www.icom.co.jp/world/index.html The following items are required: PC • Microsoft® Windows® XP, M Microsoft® Windows Vista®, Microsoft® Windows® 7 or Microsoft® Windows® 8 OS • A USB 1.1 or 2.

0 port Other items • USB cable (supplied with the transceiver) • IC software (such as the optional RS-BA1 or CSP 7100) NEVER connect the transceiver to a PC until the USB driver installation has been completed. o DATA1 JACK [DATA1] (p. 2-6) Connect a PC through the optional OPC-1529R C data communication cable, for low-speed data communication in the DV mode. (AI sec. 9) Connect a GPS receiver through the optional C OPC-1529R data communication cable, for GPS operation. (AI sec. 10) !0 DATA2 SOCKET [DATA2] (p. 2-6) Connect a TNC (Terminal Node Controller), and so on, for high speed data communications. !1 I-V REMOTE CONTROL JACK [REMOTE] C (p. 2-6) Connect a PC, using the optional CT-17 ci-v level C converter, for external control of the transceiver.

Connect for the transceive function with another Icom U CI-V transceiver or receiver. When the transceive function is set to ON, changing the frequency, operating mode and so on, on the IC-7100 automatically changes those settings on other Icom transceivers or receivers, and vice versa. Connect another IC-7100, using a mini plug C cable*, for transceiver to transceiver cloning. * Purchase separately !2 SB (Universal Serial Bus) PORT [USB] U Using a USB cable, connect a PC to do the following: - Input modulation - Remotely control the transceiver using CI-V commands (AI sec. 20) - Send the received audio to the PC - Send the decoded characters to the PC - Low-speed data communication in the DV mode L (AI sec.

9) - Cloning using the optional CS-7100 cloning software (AI sec. 21) 1-15 About the modulation input: Select “USB” in the “Connectors” Set mode item “DATA OFF MOD” or “DATA MOD.” The modulation input level from the USB jack can be set in the Set mode item “USB MOD Level.



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"(AI sec. 6) SET > Connectors > DATA OFF MOD SET > Connectors > DATA MOD SET > Connectors > USB MOD Level While cloning using the CS-7100 software, DO NOT connect anything to the [REMOTE] jack.

E !3 □ XTERNAL SPEAKER JACK [SP] □ Connect to an external speaker (4 to 8 φ). !4 MICROPHONE CONNECTOR [MIC] Plug in the supplied or an optional microphone. • See AI sec. 21 for appropriate microphones. • See p. 1-17 for microphone connector information. • □ he optional OPC-589 cable can be used to connect an T 8-pin microphone such as the SM-30 or SM-50. • □ microphone connector is also available on the ControlA ler. DO NOT simultaneously connect two microphones. 1 PANEL DESCRIPTION Main unit — Rear panel (Continued) DDACC socket information • ACC socket ACC PIN No.

1 2 13 9 10 11 12 5 6 7 8 1 2 3 4 NAME 8V GND DESCRIPTION Regulated 8 V output. Connects to ground. An external equipment controls the transceiver. When this pin goes low, Input/out- the transceiver transmits. put pin. The transceiver outputs a low signal to control external equipment. Data line for the optional AT-180. SPECIFICATIONS Output voltage: Output current: 8 V ± 0.3 V Less than 10 mA ——— Input voltage (High): Input voltage (Low): Current flow: 2.0 V to 20.

0 V -0.5 V to +0.8 V Maximum 20 mA 3 HSEND *1, 2 Rear panel view q brown w red e orange r yellow t green y blue u purple i gray o white !0 black !1 pink !2 light blue !3 light green Output voltage (Low): Less than 0.1 V Current flow: Maximum 200 mA ——— 0 to 8 V -4 V to 0 V More than 3.3 k². 0 V to 20.0 V -0.5 V to +0.8 V Maximum 20 mA 4 5 6 BDT NC *3 □ If the modification is performed, I (BAND*3) band voltage output. (AI sec.

19) Output voltage: ALC ALC voltage input. An external equipment controls the transceiver. When this pin goes low, Input/out- the transceiver transmits. put pin. The transceiver outputs a low signal to control external equipment. 13.8 V output when power is ON. Key line for the optional AT-180. Controls RTTY keying Modulator input. "High" level: "Low" level: Output current: Input impedance: Input level: Control voltage: Input impedance: Input voltage (High): Input voltage (Low): Current flow: Color refers to the cable strands of the supplied cable.

7 VSEND *1, 2 Output voltage (Low): Less than 0.1 V Current flow: Maximum 200 mA Output current: Less than 1 A ——— More than 2.4 V Less than 0.6 V Less than 2 mA 10 k² Approx. 100 mV rms 4.7 k² 100 to 300 mV rms Less than 0.3 V/5 mA More than 6.0 V/100 μA 8 9 10 11 12 13 13.8 V TKEY FSKK MOD AF*3 SQL S AF detector output. Output impedance: Fixed level, regardless of the [AF] Output level: control position.

SQL open: Squelch output. SQL closed: Grounded when squelch opens. *1 □ hen the SEND terminal controls the inductive load (such as a relay), a counter-electromotive force can cause W the transceiver's malfunction or damage. To prevent this, we recommend adding a switching diode, such as an "1SS133," on the load side of the circuit to the counter-electromotive force absorption. □ When the diode is added, a switching delay of the relay may occur.

Be sure to check its switching action before operation. [Example] ACC socket Switching diode eHSEND or uVSEND i13.8 V To a non-Icom linear amplifier Relay *2 □ SEND is used for the 144 MHz and 430 MHz bands, and HSEND is used for the HF, 50/70 MHz bands by default. V You can change this setting in "VSEND Select" of the "Connectors" Set mode. (p.

6-8) SET > Connectors > VSEND Select *3 □ ou can change this setting in "ACC/USB Output Select" of the "Connectors" Set mode. (p. 6-8) Y SET > Connectors > ACC/USB Output Select 1-16 PANEL DESCRIPTION 1 • When connecting the ACC conversion cable (OPC-599) !3 o !0 !1 !2 tyui qwer Connect to ACC socket ACC 1 4 1 6 2 8 5 3 7 ACC 2 4 1 6 2 5 3 7 q FSKK w GND e HSEND r MOD t AF y SQLS u 13.8 V i ALC q8V w GND e HSEND r BAND t ALC y VSEND u 13.8 V DDDATA2 socket information DATA2 PIN No. 1 2 r t y NAME DESCRIPTION SPECIFICATIONS Input level (1200 bps): 100 mV Input level (9600 bps): 0.2 to 0.5 Vp-p ——— Input voltage (High): Input voltage (Low): Output impedance: Output level: Output impedance: Output level: SQL open: SQL closed: 2.0 V to 20.0 V -0.

5 V to +0.8 V 10 k² 1.0 Vp-p 4.7 k² 100-300 mV rms L □ ess than 0.3 V/5 mA M □ ore than 6.0 V/100 μA q w e 3 4 5 Rear panel view Input terminal for data transmit. DATA IN (□ 200 bps: AFSK/1 9600 bps: G3RUH, GMSK) Common ground for DATA IN, DATA GND OUT and AF OUT. PTT terminal for packet operation. PTT Connect to ground to activate the transmitter. Data out terminal for 9600 bps operaDATA OUT tion only.

AF OUT Data out terminal for 1200 bps operation only. Squelch out terminal. This pin is grounded when the transceiver receives a signal which opens the squelch. • □ o avoid interfering transmissions, T connect squelch to the TNC to inhibit transmission when squelch is open. • □ eep RF gain at a normal level, otherK wise a "SQL" signal will not be output.

6 SQL DDMicrophone connector information MIC PIN No. 1 2 3 87654321 NAME 8V MIC U/D +8 V DC output. DESCRIPTION SPECIFICATIONS Maximum 10 mA UP: Ground DN: Ground through 470 ~ — — — — — Open: 'Low' level Close: 'High' level Frequency Up/Down 4 5 6 7 8 HM-151 connection M8V SW Ground to indicate the HM-151 is connected. When the HM-151 is not connected; outputs an AF.*1 PTT PTT input MIC E MIC GND DATA IN Microphone ground Microphone input Ground When the HM-151 is connected; HM-151 data input Rear panel view SQL SW When the HM-151 is not connected; Squelch switch *1 □ ou can change this setting in "MIC AF Out" of the "Function" Set mode.

(p. 6-6) Y SET > Function > MIC AF Out 1-17 1 PANEL DESCRIPTION Microphone DDHM-198 (Supplied) w q PTT SWITCH Hold down to transmit, release to receive. ON q e OFF w UP/DOWN KEYS [UP]/[DN] □ □ □ ush either key to change the operating frequenP cy, memory channel, Set mode setting, and so on. (p. 3-9, AI sec. 4, 11) □ □ □ old down either key for 1 second to start scanH ning. e UP/DN LOCK SWITCH □ Slide to turn the [UP]/[DN] keys lock function ON or OFF. The optional OPC-589 cable is required to connect these 8-pin microphones. DDSM-50 (Option) q PTT SWITCH Hold down to transmit, release to receive. w □ TT LOCK SWITCH P □ Push to lock the PTT switch in the transmit mode.

e UP/DOWN SWITCHES [UP]/[DN] □ Change the selected readout frequency or memory channel. • □ olding down continuously changes the frequency or H memory channel number. • □ hile holding down XFC , the transmit readout frequenW cy can be controlled while in the split frequency mode.



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.....2-8 DD Connecting the IC-PWI/EURO....

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....2-8 DD Connecting a non-Icom linear amplifier.

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.....2-8 Section 1 Section 2 Section 3 Section 4 Section 5 Section 6 Section 7 panel description INSTALLATION AND CONNECTIONS BASIC OPERATION
D-STAR INTRODUCTION D-STAR OPERATION <BASIC> SET MODE INSTALLATION NOTES "AI" means "Advanced Instructions.

"sec. MM" means section number. So when "(AI sec. MM)" is described on this manual, see the PDF type Advanced Instruction's section number for your reference. 2-1 2 INSTALLATION AND CONNECTIONS Selecting a location S □ elect a location for the transceiver that allows adequate air circulation, free from extreme heat, cold, vibrations, away from TV sets, TV antenna elements, radios and other electromagnetic sources.



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The base of the transceiver has adjustable feet for desktop use. Set the feet to one of two angles, to meet your operating preference. Antenna connection For radio communications, the antenna is of critical importance, along with output power and receiver sensitivity. Select a well-matched 50 Ω antenna and coaxial cable feedline. We recommend 1.

5:1 or better of Voltage Standing Wave Ratio (VSWR) on your operating bands. The transmission line should be a coaxial cable. When using a single antenna (for the HF, 50/70 MHz bands), use the [ANT1] connector. CAUTION: Protect your transceiver from lightning by using a lightning arrestor. Slide in the direction of arrow.

Antenna SWR Controller bottom view Grounding To prevent electrical shock, television interference (TVI), broadcast interference (BCI) and other problems, ground the transceiver using the GROUND terminal on the rear panel. For best results, connect a heaviest gauge wire or strap to a long ground rod. Make the distance between the [GND] terminal and ground as short as possible. Connect to a gas or electric pipe, since the connection could cause an explosion or electric shock. Each antenna is tuned for a specified frequency range and the SWR usually increases outside the range.

When the SWR is higher than approximately 2.0:1, the transceiver automatically reduces the TX power to protect the final transistors. In that case, an antenna tuner is useful to match the transceiver and antenna. Low SWR allows full power for transmitting. The IC-7100 has an SWR meter to continuously monitor the antenna SWR. Antenna connection Connect the cable from an HF, 50/70 MHz antenna to the [ANT 1] connector. Connect the cable from a 144/430MHz antenna to the [ANT 2] connector. R WARNING! NEVER connect the [GND] terminal to a gas or electric pipe, since the connection could cause an explosion or electric shock. Each antenna is tuned for a specified frequency range and the SWR usually increases outside the range. PL-259 CONNECTOR INSTALLATION EXAMPLE q 30 mm Coupling ring 10 mm (Tin) Slide the coupling ring down. Strip the cable jacket and tin the shield. Strip the cable as shown at the left.

Tin the center conductor. w 10 mm Tin 1–2 mm e solder solder Slide the connector body on and solder it. r Screw the coupling ring onto the connector body. (30 mm 9/8 in 10 mm 3/8 in 1–2 mm 1/16 in) 2-2 INSTALLATION AND CONNECTIONS 2 Connect controller to transceiver The Main unit becomes hot when transmitted for long period of time. DO NOT place anything on the transceiver. It may obstruct radiation and cause mechanical trouble. Controller To the [CONTROLLER] connector Rear panel Using Ferrite EMI filter* Depending on the installed condition of the transceiver, malfunction may occur by the wraparound of the electric wave. This problem can be resolved by using the Ferrite EMI filter. * The filter connection is required for the European T versions. To the [MAIN UNIT] connector Ferrite EMI filter Controller cable DDThe Main unit installation Nut Spring washer Drill 5 mm holes for the bracket location.

Drill 3 mm holes for the tapping screws. MB-62 Main unit installation Flat washer Screw The MB-62 can be used for AT-180 as well. Adjust for the best viewing angle. Frange bolt Using tapping screws IC-7100 2-3 2 INSTALLATION AND CONNECTIONS Connecting accessories to the controller [MIC] Connector HM-151 HM-198 Adapter cable Microphone OPC-589 Do not connect 2 microphones at same time. Both microphone have transmission if they are connected to controller and transceiver.

CAUTION: NEVER connect or use the optional HM-151 (microphone) with any other transceiver. This could damage the transceiver. The HM-151 is designed to use with the IC-7000/IC-7100 series ONLY. HM-36 SM-50 External Keypad Control the CW memory keyer transmission from external keypad by connecting control circuit to MIC connector. Set the “Keyer” item in the “Connectors” Set mode to “ON,” to use external keypad.

(AI sec. 17) Data transmission (AFSK) Connect TNC (Terminal Node Controller) to [MIC] connector to enable data transmission [AFSK]. (AI sec 18) Controller Connect to the [CONTROLLER] connector of the Main unit [PHONES/SP] Headphone/External Speaker Jack [ELEC-KEY] Electronic keyer Jack Set the switch under controller to “PHONES” to use headphone and set “SP” to use speaker. Bottom of the controller The transceiver accepts headphones with maximum 5 mW in to an 8 Ω impedance. The sound level may differ, depending on the headphones. 3.5(d) mm/1/8” plug External speaker dash A jack to connect the paddle with electrode control on the end terminal. Connect to the [KEY] Jack of the Main unit when using an Electric keyer. [p. 2-5] SP-35 (optional) dot \times et internal keyer in deS fault but it can be changed com by the “Keyer” Set mode 3.

5(d) mm/1/8” plug (AI sec. 4) Headphone 2-4 INSTALLATION AND CONNECTIONS 2 Required Connections to a Transceiver [ANT2] 144/430MHz BANDS CONNECTOR (p. 2-2) [ANT1] HF, 50/70 MHz BANDS CONNECTOR (P. 2-3) [DC 13.8V] DC POWER SUPPLY (P. 2-7) Use a power supply with 13.8 V DC output and a capacity of at least 22 Amperes. PS-126 (Optional) Connect a 50 Ω antenna for the 144/430 MHz frequency bands or 74.8 MHz and above. Connect a 50 Ω antenna for the HF, 50/70 MHz frequency bands or below 74.

8 MHz. IC-7100 [MIC] MODULAR MICROPHONE CONNECTOR (p. 2-4) As with a microphone connector of the controller, accepts the supplied microphone. [GND] GROUND TERMINAL (p. 2-2) Connect this terminal to a station or vehicle ground to prevent electrical shocks, TVI, BCI and other problems.

STRAIGHT KEY JACK Connect to the [MAIN UNIT] connector of the Controller. (p. 2-4) Plug diameter: 3.5 mm/1/8” Accepts a straight key or an external electronic keyer. 2-5 2 INSTALLATION AND CONNECTIONS The External Units Connections to a Transceiver [DATA1] DATA1 JACK For GPS operation (AI sec.

10) Connect a GPS receiver to the transceiver. The optional OPC-1529R (Data communication cable) and a 3rd party's GPS receiver with RS-232C Port are required. [TUNER] TUNER CONTROL SOCKET (AI sec.16) Connect the control cable from an optional AH-4 (HF/50 MHz automatic antenna tuner). AH-2b (Optional) Connected to AH-4 OPC-1529R (Optional) For low-speed data communication in the DV mode (AI sec. 9) Connect the transceiver to a PC. The USB cable can also be used for low-speed data communication. AH-4 (Optional) [SP] (EXTERNAL) SPEAKER JACK (p. 2-4) Similar to the [PHONES/SP] jack on the controller.

Plug in an external speaker. 3.5(d) mm/1/8” plug [DATA2] DATA2 SOCKET (AI sec. 18) Connect a TNC (Terminal Node Controller) for packet communication. [ACC] ACCESSORY SOCKET (p. 1-16) Connect control lines for external equipment such as TNC or a PC. [USB] USB (Universal Serial Bus) PORT [REMOTE] REMOTE CONTROL JACK Remotely control the transceiver using CI-V commands R Remotely control the transceiver using CI-V commands. R (AI sec. 20) (AI sec. 20) Send the received audio to the PC Cloning between transceivers (AI sec.



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