

EX-1726 FIELD PROGRAMMING SOFTWARE - IC-M710

Copyright 1991-1995 Icom Inc. Portions of the software copyrighted by Microsoft Corporation 1982-1988 This program is designed to perform cloning for the IC-M710 MF/HF TRANSCEIVER. Before using the program, make a backup copy of the original disk.

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1. PROGRAM START UP AND SHUT DOWN

- 1) Boot up DOS.
- 2) Insert the EX-1726 backup disk.
- 3) Type the start command:

EX-1726 /(option) /(version) [Enter]

1. Version
 - #01, #02, #03, #11, #12 can be used as "(version)".
 - #01: U.S.A. General version
 - #02: U.S.A. Marine version
 - #03: U.S.A. GMDSS version
 - #11: Europe Marine version
 - #12: Europe GMDSS version
 2. When the version is specified, the corresponding default settings are read.
 3. When no version is specified, data is read from the M710#01.INI (for U.S.A. General version) file.
 4. When "expert" is used as "(option)," several settings are available for programming additional items.
 5. When a file name is used instead of "/(version)," the specified file is loaded at start up.
- 4) The COMMON screen appears.

The loaded file name appears in the bottom left corner of the screen. "NONAME.ICF" appears when no data file is loaded.

- 5) When programming is completed:
- push [Esc] (indicates the TOP menu)
 - then [F] (selects file SUB menu)
 - then [S] (saves the set data; if not necessary skip this operation.)
 - then [Q] (quits the program)

2. OPERATION

The EX-1726 has a TOP menu and 6 screens for programming. All screens or operations can be accessed from the TOP menu. A SUB menu appears under the TOP menu when an item in the top menu is selected with an [Arrow] key and [Enter]. The TOP menu appears when the [Esc] key is pushed.

- 1) After the program starts up, push the [Esc] key to indicate the top menu.
- 2) Push a highlighted character; or an [Arrow] key and the [Enter] key to select the desired item.

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- A SUB menu appears under the selected item.

3) Push a highlighted character; or an [Arrow] key and the [Enter] key to select the desired screen.

- The desired screen appears.

4) Select the desired item with an [Arrow] key, then push [Space] or the digit keys to set the item.

- See descriptions of each screen for details.

3. SCREEN DESCRIPTIONS

COMMON SCREEN

The COMMON screen automatically appears after starting up this program.

This screen allows you to set conditions common to all channels.

Common

ITEM		ITEM	
TX Meter	RF	Indication type	COMMENT
TX Power Select	Low, mid, hi	Narrow filter	OFF
Mode sel on 2182	Enable	FSK shift [Hz]	170
Max User ch No.	160	FSK polarity	NORMAL
ITU FSK ch	USABLE	CW break-in	FULL
Antenna tuning type	NORMAL	ACC mod. input	ACC SEND
ALM timer [sec]	AT-130/E	Mic audio input	PTT
2182 sel at ALM	OFF	LCD contrast	7
ALM timer [sec]	PTT	NMEA ID	01
2182 sel at ALM	50	NMEA input jack	DSC/REMO
Scan type	AUTOMATIC	Cross ch oper.	DISABLE
Scan ref.[msec]	130	ITU ch use	ENABLE
Scan speed[step]	4	Freq. program	RX ONLY

SCREEN SELECTION

1) Push the [Esc] key once or twice to indicate the TOP menu.

2) Select "Screen" with the [S] key, or an [Arrow] and [Enter] keys.

- A sub menu appears under the TOP menu.

3) Select "Common" with the [C] key, or an [Arrow] and [Enter] keys.

- The COMMON screen appears.

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TX METER (Tx meter)

The bar-indicator on the display can be used as an RF meter or antenna current meter. European regulations require an antenna current meter. For the antenna current meter to function properly, the AT-130E HF AUTOMATIC ANTENNA TUNER must be connected to the IC-M710.

- Selectable value: RF RF meter
 ANT C ... Antenna current meter
- Selection method: Push [Space] key to toggle the selection.

TX POWER SELECTION (Tx power select)

The IC-M710 has 3 output powers available. However, some countries do not allow low power. In such cases output power should be restricted using this item.

- Selectable value: low,mid,hi 20, 60, 150 W
 mid,high 60, 150 W
 high 150 W only
- Selection method: Push [Space] or [Backspace] for selection.

MODE SELECTION ON THE EMERGENCY CHANNEL

(Mode sel on 2182)

When pushing the [2182KHz] switch, the 2182 kHz emergency frequency can be selected instantly as channel 0. When selecting the emergency channel, the operating mode selection can be inhibited, if desired.

- Selectable value: ENABLE or DISABLE
- Selection method: Push [Space] to toggle the selection.

MAXIMUM USER CHANNEL NUMBER

(Max user ch No.)

The maximum number of user channels for the IC-M710 is 160. However, this number can be reduced for easier operation.

- Selectable value: 1 to 160
- Selection method: Enter the desired number, then push [Enter], or push [Space] to select 160.

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ITU FSK CHANNEL

(ITU FSK ch)

ITU FSK channels appear as a group between the ITU 25 MHz band and user channels. This FSK channel group can be hidden for voice communication use only. This setting can be modified in the transceiver's set mode.

- Selectable value: USABLE or INHIBIT
- Selection method: Push [Space] to toggle the selection.

ITU DIRECTION

(ITU direction)

The IC-M710 is designed for ship-to-shore operation when ITU channels are in use. When using the transceiver as a coastal station, the duplex direction must be reversed for shore-to-ship operation.

- Selectable value: NORMAL For vessel use
 REVERSE For coastal use
- Selection method: Push [Space] to toggle the selection.

AUTOMATIC TUNING CONDITION

(Auto tuning use)

When the optional AT-130 or AT-130E AUTOMATIC ANTENNA TUNER is connected, tuning can be started automatically without the [TUNE] switch for instant operation. This setting can be modified in the transceiver's set mode.

- Selectable value: ON or OFF
- Selection method: Push [Space] or [Backspace] for selection.

TUNING START METHOD

(Auto tuning type)

When the automatic tuning condition is set to ON, the start trigger is selected in this item. "PTT" tunes the antenna when pushing the PTT on the new frequency. "FREQUENCY" tunes the antenna 2.5 sec. after a new frequency is selected.

- Selectable value: PTT, FREQUENCY
- Selection method: Push [Space] to toggle the selection.

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ALARM TIMER

(ALM timer [sec])

During on distress a 2-tone emergency signal should be transmitted for at least 30 sec. before the emergency call. The transceiver has a timer which automatically stops the 2-tone alarm after a specified time. This item sets the timer period.

- Selectable value: 1 to 99 (sec.)
- Selection method: Enter the desired period, then push [Enter] or push [Space] to select "50".

AUTOMATIC 2182 kHz SELECTION AT ALARM TRANSMISSION

(2182 sel at ALM)

To transmit the 2-tone alarm signal, 2182 kHz must be selected in advance. However, automatic 2182 kHz selection is available when pushing and holding [ALARM] and [TX FREQ].

- Selectable value: MANUAL 2182 kHz must be selected manually
 AUTOMATIC ... 2182 kHz is selected automatically
- Selection method: Push [Space] to toggle the selection.

NOTE: When selecting "AUTOMATIC" in this item, testing alarm transmission on a different frequency is not possible.

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SCAN TYPE

(Scan type)

This item selects one of the scan functions.

1. Channel scan and channel resume scan search the 5 channels around the selected channel when a user channel is selected or search all ITU channels in the band when an ITU channel is selected.
2. Channel scan is canceled when transmitting and channel resume scan pauses for 30 sec. when transmitting.
3. Programmed scan searches for signals over the frequency range at high speed while squelch is closed and at low speed while squelch is open. The frequency range of programmed scan is between user channels maximum number and maximum number minus 1 (e.g. 159 and 160).
 - Selectable value: CHANNEL, CH RESUME, PROGRAM, or OFF (scan inhibit)
 - Selection method: Push [Space] or [Backspace] for selection.

NOTE: When the "Freq. program" item is selected as "INHIBIT", "PROGRAM" does not appear as selectable values.

SCAN SPEED REFERENCE

[msec./ch] (Scan ref.[msec])

Scan speed can be selected in the next item and in the transceiver's set mode. The reference value of the selection can be set in this item. The reference value is the time paused on a channel and is used for the fastest scan speed. This selection AFFECTS CHANNEL SCAN ONLY.

- Selectable value: 100 to 200 in 10 msec increments.
(100 is the fastest speed)
- Selection method: Enter the desired period, then push [Enter] or push [space] to select "130".

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SCAN SPEED

(Scan speed[step])

Scan speed is selectable from one of 10 steps. Scan speed "1" is the fastest speed. This setting can be modified in the transceiver's set mode.

Selection [step]	1	2	3	4	5...9	10
Channel scan [msec/ch]	1 x ref	2 x ref	4 X ref	8 x ref	512 x ref

(ref stands for the value of "scan speed reference" on the above item.)

Selection [step]	1	2	3	4	5	6	7	8	9	10
Channel resume scan[sec/ch]	1	2	3	4	5	6	7	8	9	10
Programmed scan* [msec/ch]	10	20	40	60	90	140	210	320	480	720

***value shows while squelch open; fixed 10 msec/ch while squelch closed.**

- Selectable value: 1 to 10
- Selection method: Enter the desired number, then push [Enter].
or push [Space] to select "4".

INDICATION TYPE

(Indication type)

The display indication type can be toggled with the [CH/FREQ] key. This item sets which display types are toggled. This setting can be modified in the transceiver's set mode (except "FREQ ONLY" setting).

- Selectable value:
 1. COMMENT Channel number/comment and Rx/Tx frequencies
 - i. FREQ ONLY Channel number/frequency and Rx/Tx frequencies
 - ii. (Comment cannot be selected on the transceiver's set mode.)
 2. FREQUENCY Channel number/frequency and Rx/Tx frequencies
(Comment can be selected on the transceiver's set mode.)
- Selection method: Push [Space] or [Backspace] for selection.

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NARROW FILTER

(Narrow filter)

This item selects the passband width when selecting A1A(CW), FSK or J2B mode. These narrow widths are available for the GMDSS versions and an optional filter is required for the Marine/General versions. This setting can be modified in the transceiver's set mode.

- Selectable value: OFF 2.3 kHz/-6 dB
 ON 350 Hz/-6 dB (GMDSS versions)
 500 Hz/-6 dB (optional for Marine/General versions)
- Selection method: Push the [Space] key to toggle the selection.

NOTE: When "ON" is set without an optional filter installation for the General/Marine versions, the transceiver's transmit/receive circuitry do not function.

FSK SHIFT FREQUENCY

(FSK shift [Hz])

For FSK operation, two audio frequencies, mark and space, are used to send data. The shift frequency is the difference between these frequencies.

This setting can be modified in the transceiver's set mode.

- Selectable value: 170, 425, 850
- Selection method: Push [Space] or [Backspace] for selection. or, enter a number above via the keyboard, then push [Enter].

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FSK POLARITY

(FSK polarity)

Normal and reverse polarity are available for FSK operation. This setting can be modified in the transceiver's set mode.

- Selectable value: NORMAL key open: mark, key close: space
 REVERSE key open: space, key close: mark
- Selection method: Push the [Space] key to toggle the selection.

CW BREAK-IN

(CW break-in)

The CW break-in function (in A1A mode) toggles transmit and receive with CW keying. Full break-in allows you to receive signals between transmitted keying pulses during CW transmission. Semi break-in allows you to mute receiving until keying stops with some delay time. This setting can be modified in the transceiver's set mode.

- Selectable value: FULL, SEMI, OFF
- Selection method: Push [Space] or [Backspace] for selection.

ACC MODULATION INPUT ACCEPT

(ACC mod. input)

Modulation input from the ACC(1) socket, pin 4, is usually acceptable only when the "SEND" line (ACC(1) pin 3) is grounded. However, this item can be used to allow modulation input when the PTT switch is pushed.

- Selectable value: ACC SEND at ACC SEND only
 PTT/ACC at both ACC SEND and PTT
- Selection method: Push the [Space] key to toggle the selection.

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MICROPHONE AUDIO INPUT ACCEPT

(Mic audio input)

Microphone audio is usually acceptable only when the PTT switch is pushed and held. However, this item can be used to accept audio when the "SEND" line (ACC(1) pin 3) is grounded.

- Selectable value: PTT at PTT switch only
PTT/ACC at Both ACC SEND and PTT
- Selection method: Push the [Space] key to toggle the selection.

LCD CONTRAST

(LCD contrast)

The LCD contrast can be adjusted through 10 levels to suit transceiver mounting angle, location and ambient lighting. This setting can be modified in the transceiver's set mode.

- Selectable value: 1 to 10 (1 is lowest and 10 is highest)
- Selection method: Enter the desired number, then push [Enter] or push [Space] to select "7".

ID NUMBER FOR REMOTE CONTROL

(NMEA ID)

When connecting an external controller such as a personal computer, 2-digit ID codes are required to access the transceiver. The IC-M710 adopts NMEA0183 format and uses a "proprietary sentence" for remote control. This setting can be modified in the transceiver's set mode.

- Selectable value: 01 to 99
- Selection method: Push digit keys, then [Enter] for ID code entry or push [Space] to select "01".

NOTE: A different NMEA ID code must be used for remote control. For example, avoid "90" which is default setting of the GM-110DSC DSC TERMINAL UNIT's ID code.

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NMEA CONTROL DATA INPUT JACK

(NMEA input jack)

Remote control signals can usually be input via the [DSC] (or REMOTE) socket only. However, this item can be used to also set the [CLONE] jack as acceptable in parallel with the [DSC] (or REMOTE) socket. This setting can be modified in the transceiver's set mode.

- Selectable value: DSC/REMO, CLONE
- Selection method: Push [Space] to toggle the selection.

CROSS CHANNEL OPERATION

(Cross ch oper.)

(" /EXPERT" is necessary in the start up command to edit this item) Cross channel operation is available for European countries to operate different channels for receiving and transmitting. The U.S.A. versions must be set to "DISABLE" in this setting.

- Selectable value: DISABLE, ENABLE
- Selection method: Push [Space] to toggle the selection.

ITU CHANNEL USE

(ITU ch use)

(" /EXPERT" is necessary in the start up command to edit this item) The IC-M710 has all ITU channels. However, customers of some versions such as the General version, may not need the ITU channels. In such cases, the ITU channels can be hidden for easier operation.

- Selectable value: DISABLE, ENABLE
- Selection method: Push [Space] to toggle the selection.

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FREQUENCY PROGRAMMING CAPABILITY

(Freq. program)

(" /EXPERT" is necessary in the start up command to edit this item) Both Rx and Tx frequencies can be programmed via the IC-M710's keypad. However, this capability can be restricted to suit regulations, operation methods, etc.

- Selectable value: RX/TX, RX ONLY, INHIBIT
- Selection method: Push [Space] or [Backspace] for selection.

NOTE: If "Scan type" is selected as "PROGRAM" and this item sets to "INHIBIT", the scan type becomes "CHANNEL" automatically.

USER CHANNEL SCREEN

The USER CH screen allows you to set all user channel and [2182KHz] emergency channel contents. These contents can be overwritten from the transceiver's front panel (except ch 0) when the "Freq. program" item in the COMMON screen is set as "RX/TX" (or "RX ONLY").

User Channels

CH No.	Rx FREQ. [kHz]	Tx FREQ. [kHz]	MODE	COMMENT
0	2182.0	2182.0	H3E	EMERGEN
1	2182.0	2182.0	H3E	EMERGEN
2	5000.0		H3E	WWV
3	10000.0		H3E	WWV
4	15000.0		H3E	wwv
5	2182.0	2182.0	H3E	EMERGEN
6	4125.0	4125.0	J3E	DISTRES
7	4125.0	4125.0	J3E	DISTRES
8	6215.0	6215.0	J3E	DISTRES
9	6125.0	6125.0	J3E	DISTRES
10	8291.0	8291.0	J3E	DISTRES
11	2506.0	2506.0	J3E	KMI
12	4357.0	4357.0	J3E	KMI
13	4402.0	4402.0	J3E	KMI
~	~	~	~	~
160				

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SCREEN SELECTION

- 1) Push the [Esc] key once or twice to indicate the TOP menu.
- 2) Select "Screen" with the [S] key, or an [Arrow] and [Enter] keys.
 - A sub menu appears under the TOP menu.
- 3) Select "User" with the [U] key, or an [Arrow] and [Enter] keys.
 - The USER CH screen appears.

RX FREQ./TX FREQ.

The programmed frequencies are used when user channels are selected.

- 1) Select the desired channel in the "Rx FREQ." or "Tx FREQ." column with a [PageUp], [PageDown] or [Arrow] key.
- 2) Enter the desired frequency in kHz (incl. 1 decimal place), then push [Enter]; or, push [Space] then [Enter] to set the channel as a blank channel.
 - The acceptable frequency range is determined by the setting in the FREQ RANGE screen.
 - Blank setting on the Rx freq. erases mode and comment simultaneously.
 - Blank setting on the Tx freq. produces the transmit inhibit channel.

NOTE: If "?" appears at the end of the frequency, (1) the acceptable frequency range has been changed (decreased) in the FREQ RANGE screen; or (2) the usable mode is restricted in the MODE screen. Check both screens, otherwise cloning will not be successful.

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MODE

Programmed modes are used when user channels are selected. This column shows the same contents as the display indication, such as J3E or USB. The usable mode and mode indication are set in the MODE screen.

- 1) Select the desired channel in the "MODE" column with a [PageUp], [PageDown] or [Arrow] key.
- 2) Push [Space] or [Backspace] to select the desired operating mode. Or, enter the desired mode via the keyboard directly.

** The usable modes are determined by the setting in the MODE screen.

COMMENT

The IC-M710 shows channel names with up to 7 characters when channel indication is selected, to conveniently display station names, operating purposes, etc. Check that the "Indication type" in the COMMON screen is set to "COMMENT" to indicate memory names.

- 1) Select the desired channel in the "NAME" column with a [PageUp], [PageDown] or [Arrow] key.
- 2) Enter the desired channel name via the keyboard.
 - Acceptable characters: 0-9, A-Z, ' () * + - < = > @
 - Capital letters only although small letters can be input.
 - To delete the name, push [Space].

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ITU SIMP CH SCREEN

The ITU SIMP CH screen allows you to set all ITU simplex channel contents. These contents can be overwritten from the transceiver's front panel when the "Freq. program" item in the COMMON screen is set to "RX/TX".

+[ITUsimp ch]-----+-----+-----+-----+				
CH	FREQ.	MODE	COMMENT	
No.	[kHz]			
+-----+-----+-----+-----+				
4-1	4125.0	J3E	4A LTD	
4-2	4146.0	J3E	4B LTD	
4-3	4149.0	J3E	4C LTD	
4-4	4366.0	J3E	ALASKA	
4-5	4369.0	J3E	ALASKA	
4-6	4396.0	J3E	ALASKA	
4-7	4402.0	J3E	ALASKA	
4-8	4420.0	J3E	ALASKA	
4-9	4423.0	J3E	ALASKA	
+-----+-----+-----+-----+				
6-1	6224.0	J3E	6A LTD	
6-2	6227.0	J3E	6B LTD	
~	~	~	~	~
~	~	~	~	~
25-8				
25-9				
+-----+-----+-----+-----+				

SCREEN SELECTION

- 1) Push the [Esc] key once or twice to indicate the TOP menu.
- 2) Select "Screen" with the [S] key, or an [Arrow] and [Enter] keys.
 - A sub menu appears under the TOP menu.
- 3) Select "ITU simp" with the [I] key, or an [Arrow] and [Enter] keys.
 - The ITU SIMP CH screen appears.

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FREQ. [kHz]

The programmed frequencies are used when an ITU simplex channel is selected.

- 1) Select the desired channel in the "FREQ." column with a [PageUp], [PageDown] or [Arrow] key.
- 2) Enter the desired frequency in kHz (incl. 1 decimal place), then push [Enter]; or, push [Space] then [Enter] to set the channel as a blank channel.
 - The acceptable frequency range is determined by the setting in the FREQ RANGE screen.

NOTE: If "?" appears at the end of the frequency, (1) the acceptable frequency range has been changed (decreased) in the FREQ RANGE screen; or (2) the usable mode is restricted in the MODE screen. Check both screens, otherwise cloning will not be successful.

MODE

The programmed mode appears when ITU simplex channels are selected. This column shows the same contents as the display indication, such as J3E or USB. The usable mode and mode indication are set in the MODE screen.

- 1) Select the desired channel in the "MODE" column with a [PageUp],[PageDown] or [Arrow] key.
- 2) Push [Space] or [Backspace] to select the desired operating mode. Or, enter the desired mode via the keyboard directly.
 - ** The usable modes are determined by the setting in the MODE screen.

COMMENT

The IC-M710 shows channel names with up to 7 characters when channel indication is selected, to conveniently display station names, operating purposes, etc. Check that the "Indication type" in the COMMON screen is set to "COMMENT" to indicate memory names.

- 1) Select the desired channel in the "NAME" column with a [PageUp], [PageDown] or [Arrow] key.
- 2) Enter the desired channel name via the keyboard.
 - Acceptable characters: 0-9, A-Z, ' () * + - < = > @
 - Capital letters only although small letters can be input.
 - To delete the name, push [Space].

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FREQ RANGE SCREEN

The FREQ RANGE screen allows you to change (restrict) the frequency coverage. The receiver is a general coverage receiver, therefore only one range is available. The transmitter frequency range is separated by 11 to fit the allowed range. In addition, the frequency ranges for the ITU simplex channels are also available for operating convenience.

**** NOTE:** The FREQ RANGE screen can be selected without any special ******
****** operation. However, setting is possible only when the ******
****** "expert" command is used during start up. ******

+[Freq. range]-----+-----++-----+-----+-----+						
ITEM	lower	higher	ITEM	lower	higher	
	edge[kHz]	edge[kHz]		edge[kHz]	edge[kHz]	
+-----+-----+-----++-----+-----+-----+						
Rx	30.000	29999.900	Tx 1st	1600.000	1999.999	
+-----+-----+-----++-----+-----+-----+						
			Tx 2nd	2000.000	2999.999	
+-----+-----+-----++-----+-----+-----+						
			Tx 3rd	4000.000	4999.999	
ITU 4M	4000.000	4999.999	Tx 4th	6000.000	6999.999	
ITU 6M	6000.000	6999.999	Tx 5th	8000.000	8999.999	
ITU 8M	8000.000	8999.999	Tx 6th	12000.000	13999.999	
ITU 12M	12000.000	13999.999	Tx 7th	16000.000	17999.999	
ITU 16M	16000.000	17999.999	Tx 8th	18000.000	19999.999	
ITU 18M	18000.000	19999.999	Tx 9th	22000.000	22999.999	
ITU 22M	22000.000	22999.999	Tx 10th	25000.000	27500.000	
ITU 25M	25000.000	27500.000	Tx 11th			
+-----+-----+-----++-----+-----+-----+						

SCREEN SELECTION

- 1) Push the [Esc] key once or twice to indicate the TOP menu.
- 2) Select "Screen" with the [S] key, or an [Arrow] and [Enter] keys.
 - The FREQ RANGE screen appears.
 - Be sure the "expert" command is used at start up if you want to change the contents.

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RX

This line is used for setting the receiver frequency coverage continuously.
Enter the desired lower and higher edges.

- Selectable range: 30.000 to 29999.900 [kHz]
- Selection method: Enter the desired frequency directly via the numeral keys.

ITU 4M -- ITU 25M

These lines are used to set the receive/transmit range for ITU simplex channels. Enter the desired range for each band.

- Selectable range: 1600.000 to 29999.900 [kHz]
- Selection method: Enter the desired frequency directly via the numeral keys.

Tx 1st -- Tx 11th

These lines are used to set the transmit range for user channels. Input the desired frequency range from the upper lines as there are 11 lines for band separation.

- Selectable range: 1600.000 to 29999.900 [kHz]
- Selection method: Enter the desired frequency directly via the numeral keys;
or push [Space] then [Enter] to delete the frequency range.

NOTE: When a frequency range in an upper line is deleted, the frequency range lines underneath are erased, automatically.

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MODE SCREEN

The IC-M710 has the following mode capabilities. However, some modes can be restricted to suit operating needs.

+ [Mode] -----+-----+-----+-----+				
MODE	INDI-	Rx	Tx	
	CATION			
+-----+-----+-----+-----+				
J3E	J3E	ENABLE	ENABLE	
R3E	R3E	ENABLE	ENABLE	
H3E	H3E	ENABLE	ENABLE	
LSB	LSB	DISABLE	DISABLE	
J2B	J2B	DISABLE	DISABLE	
FSK	FSK	ENABLE	ENABLE	
A1A	A1A	DISABLE	DISABLE	
+-----+-----+-----+-----+				

SCREEN SELECTION

- 1) Push the [Esc] key once or twice to indicate the TOP menu.
- 2) Select "Screen" with the [S] key, or an [Arrow] and [Enter] keys.
 - A SUB menu appears under the TOP menu.
- 3) Select "MODE" with the [M] key, or an [Arrow] and [Enter] keys.
 - The MODE screen appears.

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INDICATION

The programmed indication appears on the transceiver's display when the mode is selected. The following indications are available for [Space] selection, however, other indications up to 3 characters can be input via the keyboard.

- Selectable value: J3E J3E, USB or other
 R3E R3E or other
 H3E H3E, AM or other
 LSB LSB or other
 J2B J2B, AFS or other
 FSK FSK, DFS or other
 A1A A1A, CW or other
- Selection method: Push [Space] to toggle the selection, or enter the desired name directly from the keyboard.

RX / TX

These columns select usable modes for operation. When "DISABLE" is selected in the Rx column, the mode cannot be selected via the transceiver's front panel. When "DISABLE" is selected in the Tx column, transmission is inhibited when the mode is selected even if a transmit frequency is programmed.

- Selectable value: ENABLE, DISABLE
 (ENABLE cannot be selected in the Tx column when the Rx column is set as DISABLE.)
- Selection method: Push [Space] to toggle the selection.

NOTE: J3E cannot be set to "DISABLE" in the both RX and TX columns.

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4. CLONING OPERATION

Programmed data can be cloned to an IC-M710 instantly. All data is clone sent (PC -> TR) or clone read (PC <- TR). A cloning cable, OPC-478 is necessary to connect a PC's RS-232C port and the transceiver.

For convenience, when changing a small portion of the programmed contents, clone read the data from the transceiver, modify the data, then clone send it back to the transceiver.

CLONE SEND (PC->TR)

The programmed data in the PC is copied to the transceiver.

- 1) Connect the OPC-478 between the PC's RS-232C terminal and transceiver's [CLONE] jack.
- 2) Turn the PC and transceiver power ON.
- 3) Start up this program.
- 4) Select "Clone" in the TOP menu with the [C] key, or an [Arrow] and [Enter] keys.
 - Clone sub menu appears.
- 5) Select "PC->TR" in the SUB menu with the [P] key, or [Arrow] and [Enter] keys.
 - "Sending oooooo" appears in the bottom left of corner of the screen.
 - "CLONE" appears and counting starts from E000 to EFF0 on the transceiver.
 - When cloning is finished and all data send correctly, "Good" appears on the transceiver display.

- NOTE:
- When "CLONE error" appears, check the "RS-232C port" setting.
 - When "Illegal data in" and screen name appears "?" may be appears on the illegal data in the screen. Re-program them, or check the freq. range screen
- 6) Turn the transceiver OFF and ON again.
 - Clone send is now complete.

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CLONE READ (PC<-TR)

The pre-set data in the transceiver is copied to the PC.

- 1) Connect the OPC-478 between the PC's RS-232C terminal and transceiver's [CLONE] jack.
- 2) Turn the PC and transceiver power ON.
- 3) Start up this program.
- 4) Select "Clone" in the TOP menu with the [C] key, or [Arrow] and [Enter] keys.
 - Clone sub menu appears.
- 5) Select "PC<-TR" in the sub menu with the [T] key, or [Arrow] and [Enter] keys.
 - "CLONE" appears and counting starts from E000 to EFF0 on the transceiver.
 - When cloning is finished, the transceiver's display returns to the previous indication.
 - Clone read is now complete.

RS-232C

When the connected PC has 2 or more RS-232C ports, the desired port can be selected with this program. When the PC has only 1 port, "PORT #1" must be selected, otherwise, the cloning operation cannot be performed.

- 1) Select "Clone" in the TOP menu with the [C] key, or an [Arrow] and [Enter] keys.
 - Clone sub menu appears.
- 2) Select "RS-232C" in the SUB menu with the [R] key, or an [Arrow] and [Enter] keys.
 - RS-232C port selection block appears.
- 3) Select the desired port number to connect the cloning cable with an [Arrow] and [Enter] keys.
 - Selected number is the same as the PC port number assignment.

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5. FILE SAVING and LOADING

FILE SAVING OPERATION

- 1) Push the [Esc] to indicate the TOP menu.
- 2) Select "File" in the TOP menu with the [F] key, or an [Arrow] and [Enter] keys.
 - File sub menu appears.
- 3) Select "Save" in the sub menu with the [S] key, or [Arrow] and [Enter] keys.
 - A file name box appears and shows "FILE: noname.icf".
- 4) Type the desired file name to be saved.
 - ICF is recommended as a file extension for loading convenience.
 - When no file extension is used, ".ICF" is automatically added to the file name.
 - The TOP menu and the file name disappear and the previous menu appears.

SAVING NOTE

When starting up the program and no file name has been loaded, "noname.icf" appears in the file name box. In this case, direct file name entry is possible ("noname" disappears automatically). However, once a file is loaded or saved, file name entry does not change the file name. ([Del] or [Ins] key must be used to change the file name.)

**

To indicate the previously saved file name, "*" (wild card) may be helpful to check the file name.

FILE LOADING OPERATION

- 1) Push the [Esc] to indicate the TOP menu.
- 2) Select "File" in the TOP menu with the [F] key, or an [Arrow] and [Enter] keys.
 - File sub menu appears.
- 3) Select "Load" in the SUB menu with the [L] key, or [Arrow] and [Enter] keys.
 - A file name box appears and shows "FILE: FILE: *.ICF".
- 4) Type the desired file name, then push [Enter]. Or, push [Enter] to indicate the pre-programmed file name, select the desired file name with an [Arrow] key, then push the [Enter] key twice.
 - The typed or selected file is loaded, then the file name box disappears.
 - The loaded file name appears in the bottom left corner of the screen.

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DOS COMMAND

In the "File" sub menu, a "Dos" item appears. This command pauses the program so that a DOS command can be used. When you want to return to normal operation of the program, type "EXIT", then push [Enter]

6. PRINTOUT

The set data can be printed out for convenience and reference for subsequent programming. Only the currently displayed screen is printed out, therefore, the printout operation must be performed for each screen desired.

- 1) Push the [Esc] to indicate the TOP menu.
- 2) Select "Print" in the TOP menu with the [P] key, or an [Arrow] and [Enter] keys.
 - Print sub menu appears and shows "Current".
- 3) Push [Enter] again to print out the currently displayed data.
- 4) After printing is complete, the TOP and SUB menus disappear.