STANDARD HORIZON

CE57

GX1255S PERSONAL PROGRAMMING SYSTEM
REFERENCE MANUAL

This Personal Programming System is used to program the GX1255S Marine transceiver. With this Programming System, you can quickly and easily program the Standard Horizon GX1255S operating channels from your personal computer.

INSTALLING OR REMOVAL OF PROGRAM

Minimum System Requirements

- ❒ IBM-Compatible PC with Pentium processor.
- ❒ 32 bit Operating system such as Windows 98, Windows XP, or Windows 2000.
- ❒ 3.5-inch Floppy Disk Drive
- ❒ Up to 20 Megabytes of free hard disk drive space
- ❒ Mouse or other pointing device
- ❒ 256-color display adapter (24-bit color recommended) and monitor with 640 x480 resolution or higher.

Installing the "Programming Software"

1. Install the CE57 GX1255S Programming Software diskette into your computer's 3.5-inch floppy disk drive.
2. Click the "**Start**" button and select "**Run …**" then type in the drive letter of your 3.5-inch floppy disk drive followed by "setup" (for example, "**A**:**setup**"), and press the [**ENTER**] key.
3. Followed the directions on your computer screen.

To remove the "Programming Software" from your computer

1. Click the "**Start**" button and select "**Settings**," then "**Control Panel**."
2. Select "**Add/Remove Programs**" from the "Control Panel" page.
3. Select "**CE57 GX1255S**" then click "**Add/Remove**" box.

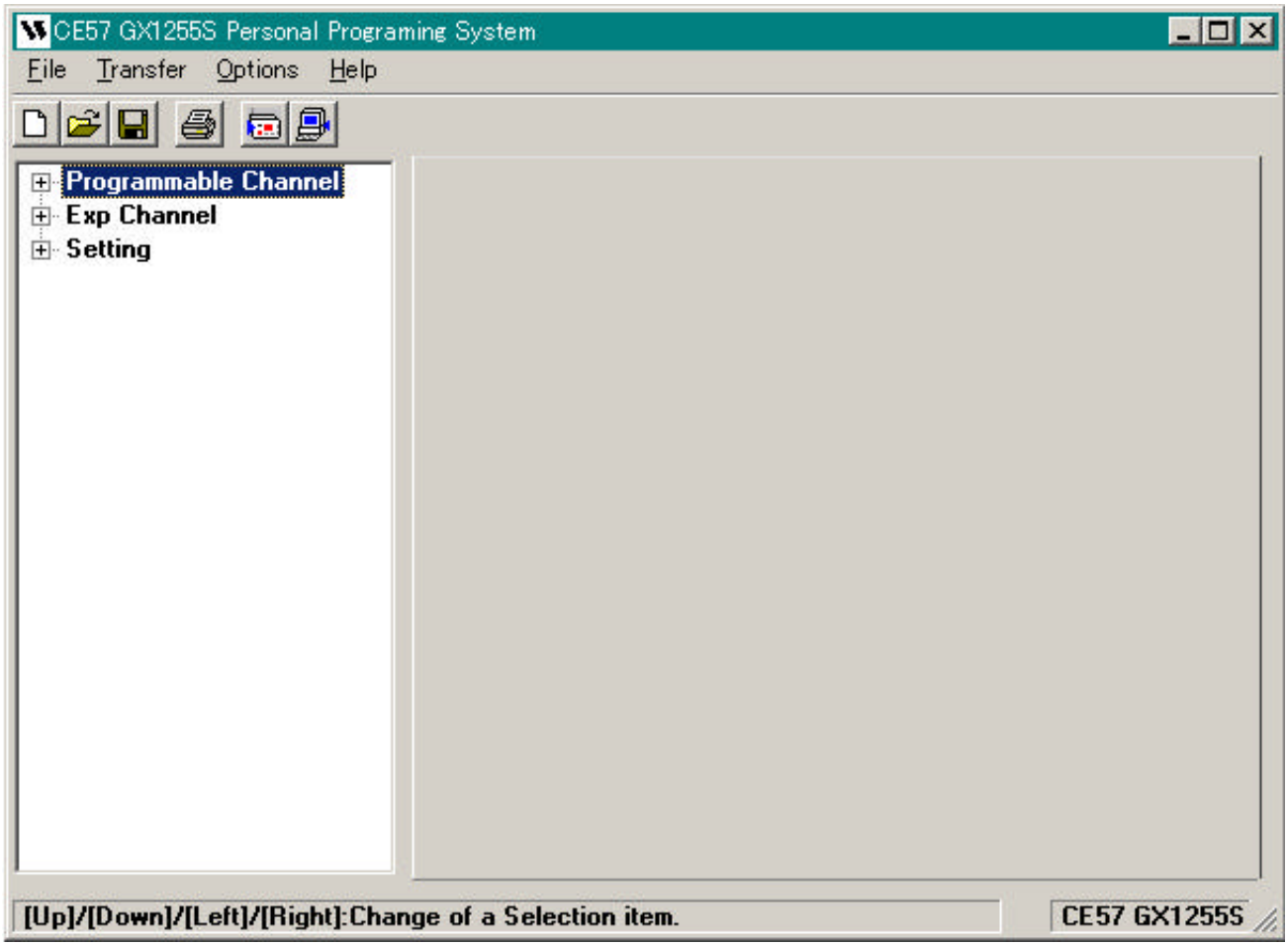
MAIN SCREEN

The CE57 GX1255S Personal Programming System consists of two major sections: the "**CHANNEL LIST TABLE**" (right side) and the "**CHANNEL TREE VIEW**" (left side).

Channel List Table

The "**CHANNEL LIST TABLE**" consists of three categories: the "***Programmable Channel***," "***Exp Channel***," and "***Setting***."

Double click the left mouse button on the "**Programmable Channel**" selection in the left window of the screen to display its lower folder ("**USA**," "**International**," "**Canada**," and "**WX**"), then click the left mouse button on the desired to channel mode display the "**Program Channel List Table**" for each channel mode. Alternatively, click the left mouse button on the "**Exp Channel**" selection in the left window to display the "Expansion Channel List Table," click the left mouse button on the "**Setting**" selection in the left window to display the "Expansion Channel List Table,"



MAIN SCREEN

Programming Channel List Table

CH: *Channel Number*

This indicates the operating channel number.

RX[**MHz**]: *Receive frequency*

This indicates the Receive frequency of the channel.

TX[**MHz**]: *Transmit frequency*

This indicates the Transmit frequency of the channel. If the "**TX INHIBIT**" feature has been engaged on this channel, this field will show "**---.---**" to indicate that transmission is not possible. See also following section.

TX: *Enable/Disable the Transmit*

This indicates whether the transmitter is "*Enabled* (**TX**)" or "*Disabled* (**--**)." See also previous section; remember that if "*Disabled* (**--**)" is engaged, the transmitter is disabled.

LOW: *Transmitter Power Output*

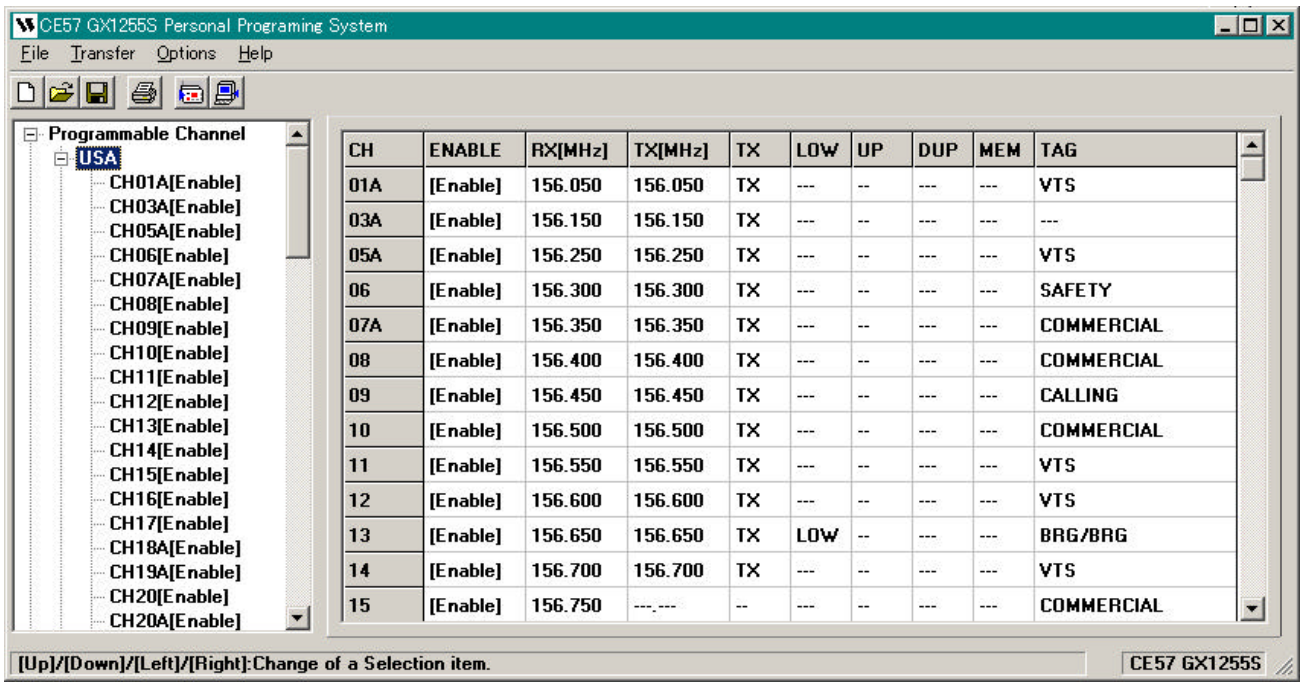
This indicates the transmitter's power output. Default values are programmed into each channel, according to international standard.

UP: *Transmit Power Selection*

This indicates whether the transmit power selection is "*Enabled* (**UP**)" or "*Disabled* (**--**)."

DUP: *Duplex Operation*

This indicates whether the duplex operation (separate transmit/receive frequencies) is Enabled "*Enabled* (**DUP**)" or "*Disabled* (**---**)."



CH	ENABLE	RX[MHz]	TX[MHz]	TX	LOW	UP	DUP	MEM	TAG
01A	[Enable]	156.050	156.050	TX	---	--	---	---	VTS
03A	[Enable]	156.150	156.150	TX	---	--	---	---	---
05A	[Enable]	156.250	156.250	TX	---	--	---	---	VTS
06	[Enable]	156.300	156.300	TX	---	--	---	---	SAFETY
07A	[Enable]	156.350	156.350	TX	---	--	---	---	COMMERCIAL
08	[Enable]	156.400	156.400	TX	---	--	---	---	COMMERCIAL
09	[Enable]	156.450	156.450	TX	---	--	---	---	CALLING
10	[Enable]	156.500	156.500	TX	---	--	---	---	COMMERCIAL
11	[Enable]	156.550	156.550	TX	---	--	---	---	VTS
12	[Enable]	156.600	156.600	TX	---	--	---	---	VTS
13	[Enable]	156.650	156.650	TX	LOW	--	---	---	BRG/BRG
14	[Enable]	156.700	156.700	TX	---	--	---	---	VTS
15	[Enable]	156.750	---.---	--	---	--	---	---	COMMERCIAL

MAIN SCREEN

MEM: *Memory Channel Scan*

This indicates whether the memory scanning (M-SCAN) is "*Enabled* (**MEM**)" or "*Disabled* (--)."

TAG: *Alpha/Numeric "Tag"*

This indicates the Alpha/Numeric "Tag" used identify the channel.

Expansion Channel List Table

CH: *Channel Number*

This number is used to identify the channel. The channel numbers occur in sequence, and their order cannot be changed.

MAIN SCREEN

ENABLE: *Enable/Disable the Channel*

This indicates whether the channel is "*Enabled* ([**Enable**])" or "*Disabled* (blank)" for operation.

POS: *Operating channel Number*

This indicates the operating channel number. The channel list for the Expansion channel is shown on page ??.

RX[**MHz**]: *Receive frequency*

This indicates the Receive frequency of the channel.

TX[**MHz**]: *Transmit frequency*

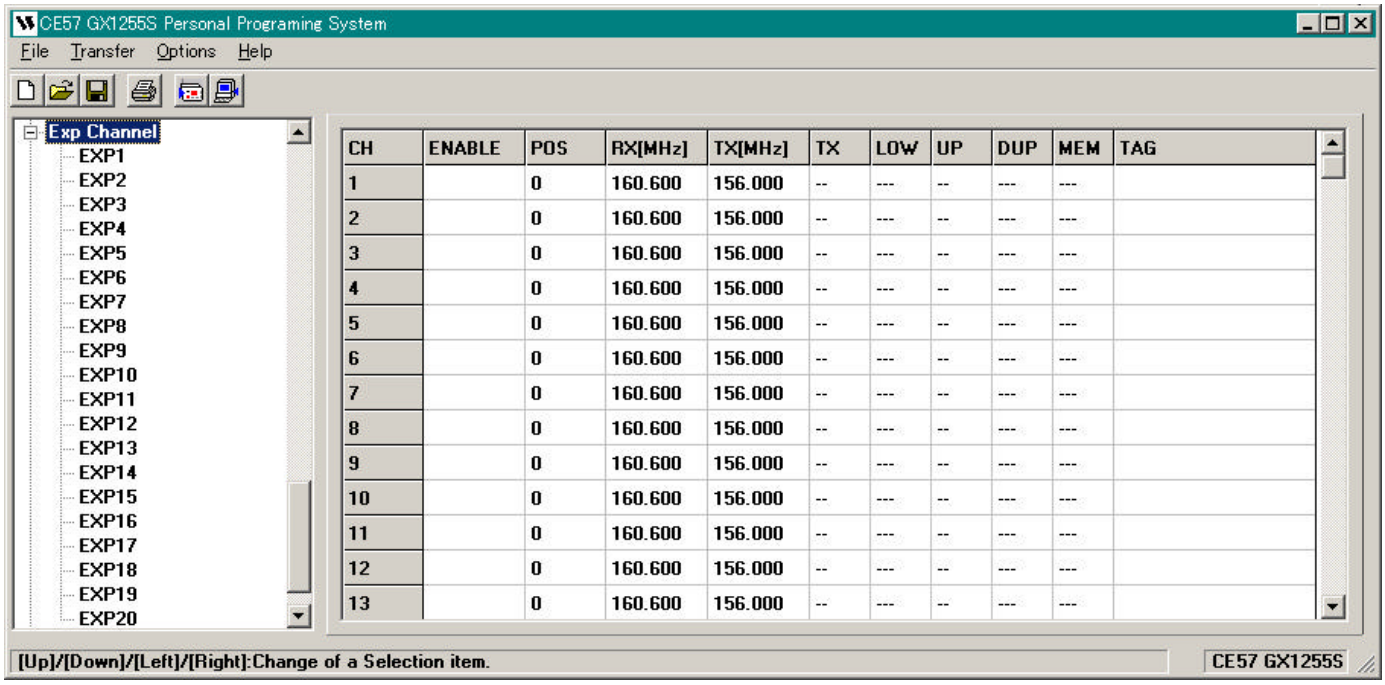
This indicates the Transmit frequency of the channel. If the "**TX INHIBIT**" feature has been engaged on this channel, this field will show "**---.---**" to indicate that transmission is not possible. See also following section.

TX: *Enable/Disable the Transmit*

This indicates whether the transmitter is "*Enabled* (**TX**)" or "*Disabled* (**--**)." See also previous section; remember that if "*Disabled* (**--**)" is engaged, the transmitter is disabled.

LOW: *Transmitter Power Output*

This indicates the transmitter's power output. Default values are programmed into each channel, according to international standard.



MAIN SCREEN

UP: *Transmit Power Selection*

This indicates whether the transmit power selection is "*Enabled* (**UP**)" or "*Disabled* (**--**)."

DUP: *Duplex Operation*

This indicates whether the duplex operation (separate transmit/receive frequencies) is "*Enabled* (**DUP**)" or "*Disabled* (**---**)."

MEM: *Memory Channel Scan*

This indicates whether the memory scanning (M-SCAN) is "*Enabled* (**MEM**)" or "*Disabled* (**---**)."

TAG: *Alpha/Numeric "Tag"*

This indicates the Alpha/Numeric "Tag" used identify the channel.

MAIN SCREEN

WX Channel List Table

ENABLE: *Enable/Disable the Channel*

This parameter toggles whether the channel is "*Enabled* (☑)" or "*Disabled* (☐)" for operation.

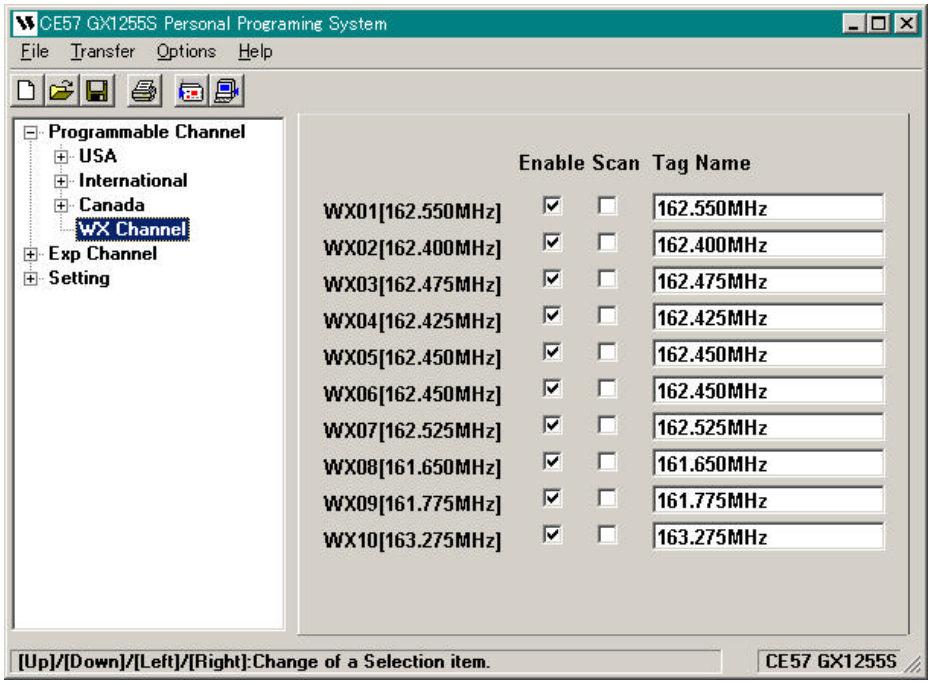
Scan: *Enable/Disable the Scanning feature*

This parameter toggles whether the channel is "*Enabled* (☑)" or "*Disabled* (☐)" for operation.

TAG: *Alpha/Numeric "Tag"*

Enter the 12 character Alpha/Numeric "Tag" used identify the WX channel.

To enter the Alpha/Numeric Tag, click the left mouse button on this parameter to enable programming, then type the characters of the desired Alpha/Numeric Tag, then press the [**ENTER**] key to save the programmed "Tag."



MAIN SCREEN

Channel Tree View

This section displays the channel list, and allows selection of the channel on which you wish to make changes to the configuration of the channel data.

Double click the *left* mouse button on the each items ("**USA**," "**International**," "**Canada**," and "**Exp Channel**") to display its lower folder.

On the lower folder in the left column, click the *left* mouse button on any channel to open its programming window, so you can program or modify the channel data on that channel.

Programming Window (Programming Channel List Table)

Channel Number: *Channel Number*

This indicates the operating channel number.

RX Frequency: *Receive frequency*

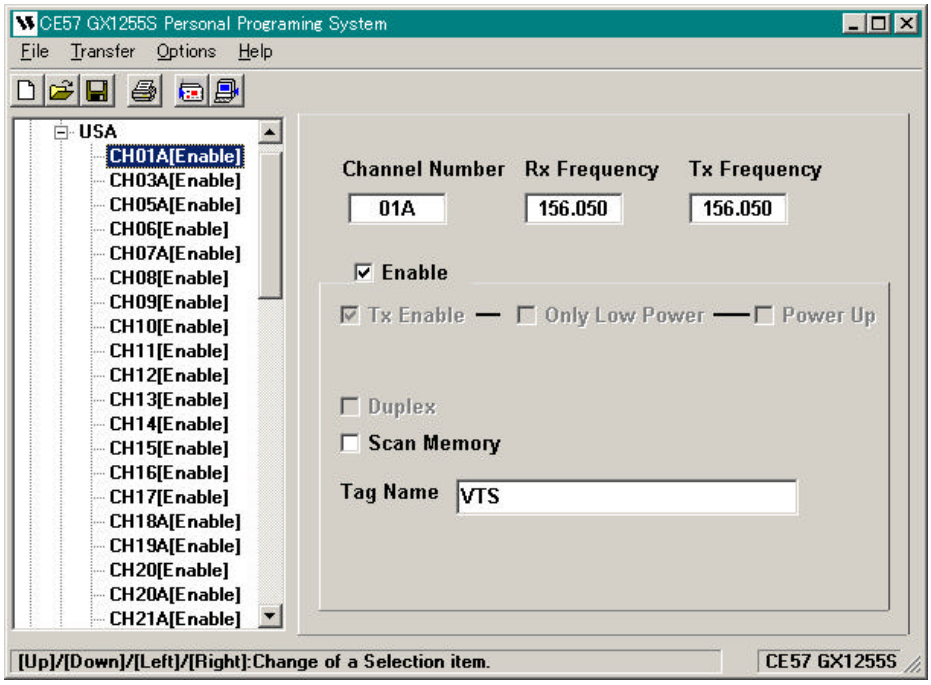
This indicates the Receive frequency of the channel.

TX Frequency: *Transmit frequency*

This indicates the Transmit frequency of the channel. If the "**Tx Inhibit**" feature has been engaged on this channel, this field will show "**---.---**" to indicate that transmission is not possible.

Enable: *Enable/Disable the Channel*

This parameter toggles the channel status between "*Enabled* (☑)" or "*Disabled* (☐)" for operation.



MAIN SCREEN

TX Enable: *Enable/Disable the Transmit*

This parameter can not be edited.

Indicates the transmitter "*Enabled* (☑)" or "*Disabled* (☐)" for operation.

Only Low Power: *Transmitter Power Output*

This parameter can not be edited.

Indicates the transmitter's power output, on this channel only, between "*HI* (☐)" or "*Low* (☑)." This parameter is ignored when the "**Tx Enable**" parameter is set to "*Off* (☐)".

Power Up: *Transmit Power Selection*

This parameter can not be edited.

Indicates the transmit power selection shall be "*Enabled* (☑)" or "*Disabled* (☐)". This parameter is ignored when the "Only Low Power"e parameter is set to "*Low* (☑)."

DUP: *Duplex Operation*

This parameter can not be edited.

Indicates the duplex operation (separate transmit/receive frequencies) is "*Enabled* (☑)" or "*Disabled* (☐)."

Scan Memory: *Memory Channel Scan*

This parameter toggles the memory scanning (M-SCAN) "*Enabled* (☑)" or "*Disabled* (☐)."

TAG: *Alpha/Numeric "Tag"*

Enter the 12 character Alpha/Numeric "Tag" used identify the channel.

To enter the Alpha/Numeric Tag, click the left mouse button on this parameter to enable programming, then type the characters of the desired Alpha/Numeric Tag, then press the [**ENTER**] key to save the programmed "Tag."

MAIN SCREEN

Programming Window (Expansion Channel List Table)

Position: *Frequency List*

This parameter selects the operating frequency for this channel. Select the desired frequency from the drop down list. The channel list for the Expansion channels is shown on page ??.

RX Frequency: *Receive frequency*

This indicates the Receive frequency of the channel.

TX Frequency: *Transmit frequency*

This indicates the Transmit frequency of the channel. If the "**TX INHIBIT**" feature has been engaged on this channel, this field will show "**---.---**" to indicate that transmission is not possible.

Enable: *Enable/Disable the Channel*

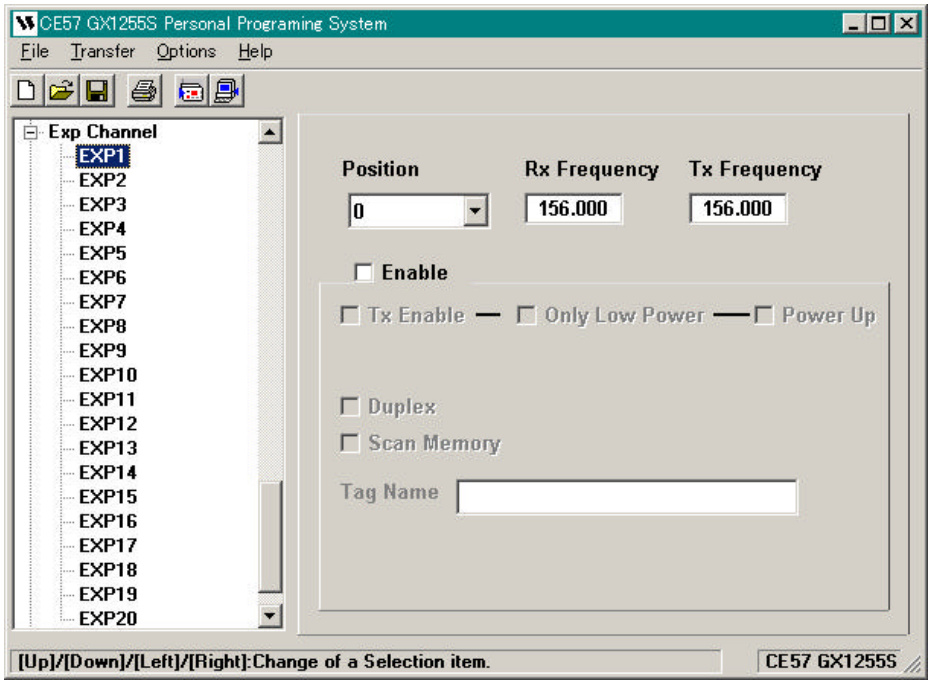
This parameter toggles the channel status between "*Enabled* (☑)" or "*Disabled* (☐)" for operation.

TX Enable: *Enable/Disable the Transmit*

This parameter toggles the transmitter "*On* (☑)" or "*Off* (☐)" for operation.

Only Low Power: *Transmitter Power Output*

This parameter toggles the transmitter's power output, on this channel only, between "*HI* (☐)" or "*Low* (☑)." This parameter is ignored when the "**TX ENABLE**" parameter is set to "*Off* (☐)."



MAIN SCREEN

Power Up: *Transmit Power Selection*

This parameter toggles the transmit power selection is "*Enabled* (☑)" or "*Disabled* (☐)." This parameter is ignored when the "Only Low Power"e parameter is set to "*Low* (☑)."

DUP: *Duplex Operation*

This parameter toggles the duplex operation (separate transmit/receive frequencies) is "*Enabled* (☑)" or "*Disabled* (☐)."

Scan Memory: *Memory Channel Scan*

This parameter toggles the memory scanning (M-SCAN) "*Enabled* (☑)" or "*Disabled* (☐)."

TAG: Alpha/Numeric "Tag"

Enter the 12 character Alpha/Numeric "Tag" used identify the channel.

To enter the Alpha/Numeric Tag, click the left mouse button on this parameter to enable programming, then type the characters of the desired Alpha/Numeric Tag, then press the [Enter] key to save the programmed "Tag."

MAIN SCREEN

Setting List

This window allows you to set up the configuration of the radio.

Contrast Level:

This parameter adjust the LCD contrast level. Available selections are "7 (dark)" through "0 (light)."

Dimmer Status:

This parameter adjust the LCD illumination level. Available selections are "HI," "MID," "LO," and "OFF."

Key Beep:

This parameter toggles the key beeper "*Enabled* (☑)" or "*Disabled* (☐)."

Scan Type:

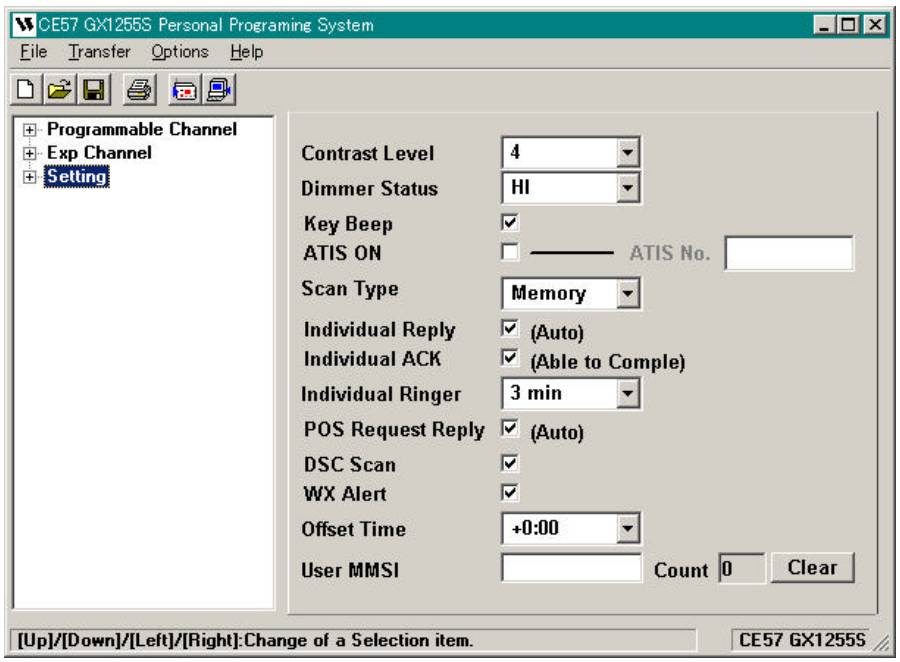
This parameter selects the scan mode between the "Memory Scanning (M-SCAN)" and "Priority Scanning (P-SCAN)."

Individual Ringer Reply:

This parameter selects ringing time of a Individual Call. Available selections are "3 minutes continuously," "15 times," "10 times," and "5 times."

POS Request Reply:

This parameter selects Position Request Reply feature "*Enabled* (☑)" or "*Disabled* (☐)."



MAIN SCREEN

DSC Scan:

This parameter selects the position request reply feature "*Enabled* (☑)" or "*Disabled* (☐)."

WX Alert:

This parameter toggles Weather Alert feature "*Enabled* (☑)" or "*Disabled* (☐)."

Offset Time:

This parameter sets the time difference between local time and UTC (Universal Time Co-ordinated or GMT Greenwich Mean Time).

User MMSI:

This parameter sets the nine digits MMSI ID code.

To set the MMSI ID code, click the left mouse button on this parameter to enable programming, then enter the MMSI ID code.

Count:

This parameter indicates the number of times of the MMSI ID input performing.

Click the left mouse button on the "Clear" box at the right, to reset the counter, thus enable the MMSI ID input performing.

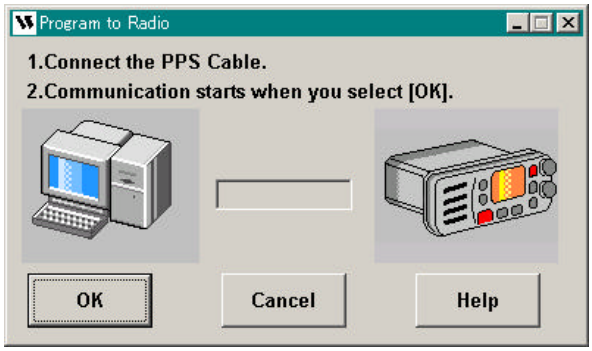
TRANSFER MENU

This menu perform the Download or Upload information from/to a radio. To Download/Upload data to/from radio, make the proper connections between the computer and radio and turn on the radio before selecting the "**TRANSFER**" menu.

"Program to Radio" Item

The "**Program to Radio**" item downloads the programming data from the computer to the radio.

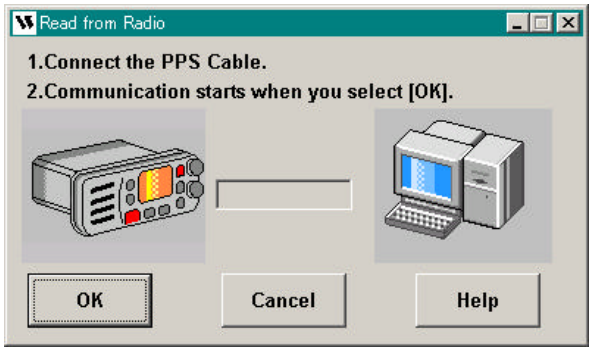
To do this: click the left mouse button on the "**Program to Radio**" item (or the "" icon) to open the pop-up window, then click the left mouse button on the "**OK**" box to download the programming data to the radio.



"Read from Radio" Item

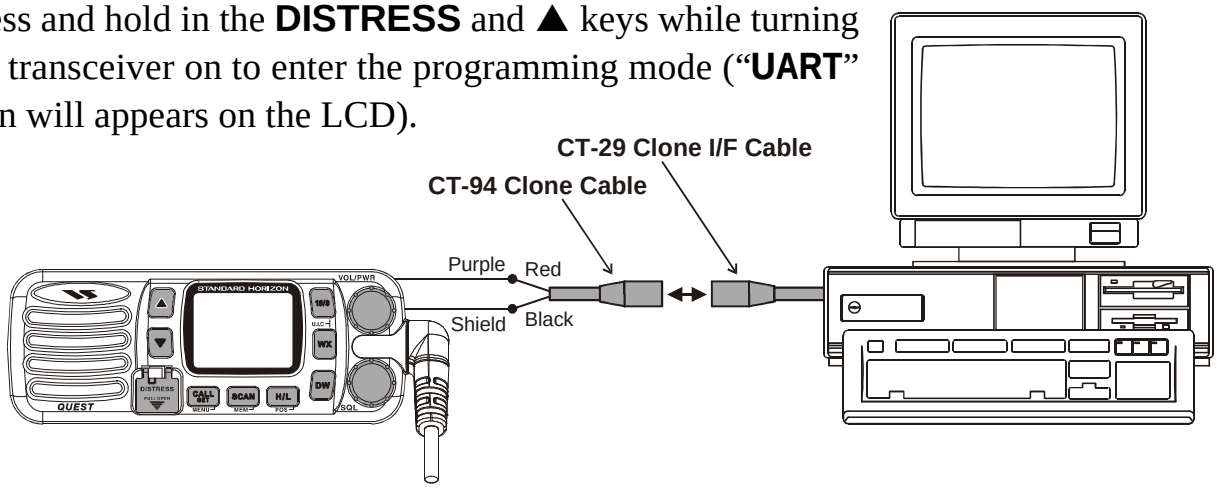
The "**Read from Radio**" item uploads the programming data from the radio to the computer.

To do this: click the left mouse button on the "**Read from Radio**" item (or the "" icon) to open the pop-up window, then click the left mouse button on the "**OK**" box to upload the programming data from the radio to the computer.



Programming Setup

1. Turn the transceiver off.
2. Connect the computer's serial port and the transceiver using the optional **CT-94** Clone Cable and **CT-29** Clone I/F Cable, as shown below.
3. Press and hold in the **DISTRESS** and ▲ keys while turning the transceiver on to enter the programming mode ("**UART**" icon will appears on the LCD).

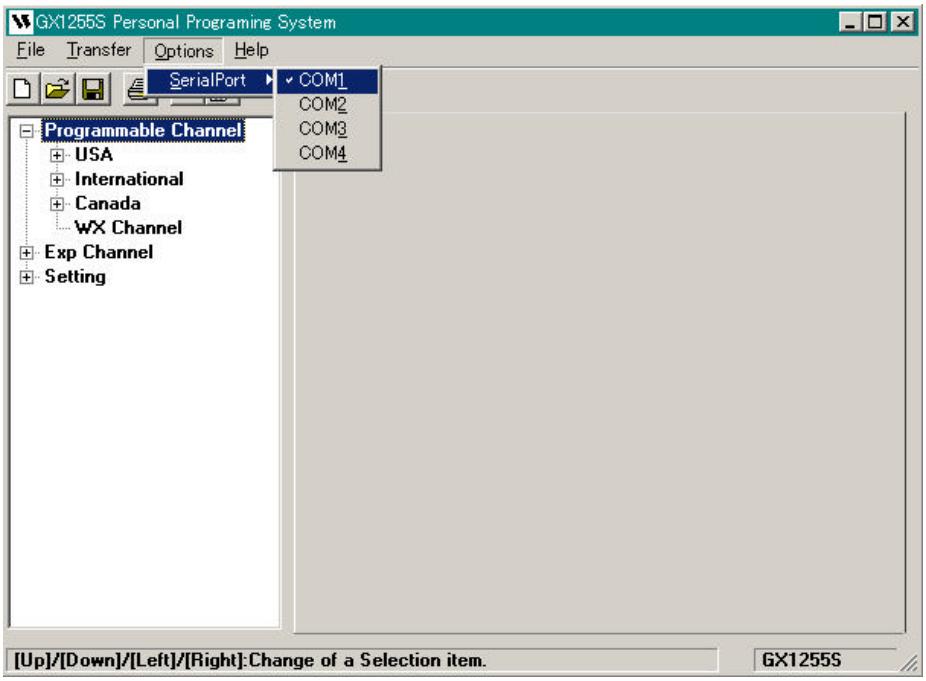


OPTION MENU

This menu allows you to set up the program according to your computer's configuration.

"Serial Port" Item

This item selects the communication port to the PC Programming cable which is connected to the radio. Click the left mouse button on the communication port ("**COM1**," "**COM2**," "**COM3**," or "**COM4**") which is connected to the PC Programming cable which is connected to the radio.



DEFALT CHANNEL LIST (USA)

CH	TX (MHz)	RX (MHz)	S/D	LO PWR	CHANNEL NAME
01 A	156.050	156.050	S	—	VTS
02	—	—	—	—	
03 A	156.150	156.150	S	—	----
04	—	—	—	—	
05 A	156.250	156.250	S	—	VTS
06	156.300	156.300	S	—	SAFTY
07 A	156.350	156.350	S	—	COMMERCIAL
08	156.400	156.400	S	—	COMMERCIAL
09	156.450	156.450	S	—	CALLING
10	156.500	156.500	S	—	COMMERCIAL
11	156.550	156.550	S	—	VTS
12	156.600	156.600	S	—	VTS
13	156.650	156.650	S	LO	BRG/BRG
14	156.700	156.700	S	—	VTS
15	-	156.750	S	—	COMMERCIAL
16	156.800	156.800	S		DISTRESS
17	156.850	156.850	S	LO	SAR
18 A	156.900	156.900	S	—	COMMERCIAL
19 A	156.950	156.950	S	—	COMMERCIAL
20	157.000	161.600	D	—	PORT OPR
20 A	157.000	157.000	S	—	PORT OPR
21 A	157.050	157.050	S	—	CCG
22 A	157.100	157.100	S	—	USCG
23 A	157.150	157.150	S	—	USCG
24	157.200	161.800	D	—	TELEPHONE
25	157.250	161.850	D	—	TELEPHONE
26	157.300	161.900	D	—	TELEPHONE
27	157.350	161.950	D	—	TELEPHONE
28	157.400	162.000	D	—	TELEPHONE
60	—	—	—	—	
61 A	156.075	156.075	S	—	CCG
62	—	—	—	—	
63 A	156.175	156.175	S	—	VTS
64 A	156.225	156.225	S	—	COMMERCIAL
65 A	156.275	156.275	S	—	PORT OPR
66 A	156.325	156.325	S	—	PORT OPR
67	156.375	156.375	S	LO	BRG/BRG
68	156.425	156.425	S	—	SHIP-SHIP
69	156.475	156.475	S	—	PLEASURE
70	—	156.525	S	—	DSC
71	156.575	156.575	S	—	PLEASURE
72	156.625	156.625	S	—	SHIP-SHIP
73	156.675	156.675	S	—	PORT OPR
74	156.725	156.725	S	—	PORT OPR
77	156.875	156.875	S	LO	PORT OPR
78 A	156.925	156.925	S	—	SHIP-SHIP
79 A	156.975	156.975	S	—	SHIP-SHIP
80 A	157.025	157.025	S	—	SHIP-SHIP
81 A	157.075	157.075	S	—	CCG
82 A	157.125	157.125	S	—	CCG
83 A	157.175	157.175	S	—	USCG
84	157.225	161.825	D	—	TELEPHONE
85	157.275	161.875	D	—	TELEPHONE
86	157.325	161.925	D	—	TELEPHONE
87	157.375	161.975	D	—	TELEPHONE
88	157.425	162.025	D	—	TELEPHONE
88 A	157.425	157.425	S	—	COMMERCIAL

DEFALT CHANNEL LIST (INTO)

CH	TX (MHz)	RX (MHz)	S/D	LO PWR	CHANNEL NAME
01	156.050	160.650	D	—	TELEPHONE
02	156.100	160.700	D	—	TELEPHONE
03	156.150	160.750	D	—	TELEPHONE
04	156.200	160.800	D	—	INTL
05	156.250	160.850	D	—	INTL
06	156.300	156.300	S	—	SAFTY
07	156.350	160.950	D	—	INTL
08	156.400	156.400	S	—	COMMERCIAL
09	156.450	156.450	S	—	CALLING
10	156.500	156.500	S	—	COMMERCIAL
11	156.550	156.550	S	—	VTS
12	156.600	156.600	S	—	VTS
13	156.650	156.650	S	—	BRG/BRG
14	156.700	156.700	S	—	VTS
15	156.750	156.750	S	LO	COMMERCIAL
16	156.800	156.800	S	—	DISTRESS
17	156.850	156.850	S	LO	SAR
18	156.900	161.500	D	—	INTL
19	156.950	161.550	D	—	INTL
20	157.000	161.600	D	—	PORT OPR
21	157.050	161.650	D	—	INTL
22	157.100	161.700	D	—	INTL
23	157.150	161.750	D	—	INTL
24	157.200	161.800	D	—	TELEPHONE
25	157.250	161.850	D	—	TELEPHONE
26	157.300	161.900	D	—	TELEPHONE
27	157.350	161.950	D	—	TELEPHONE
28	157.400	162.000	D	—	TELEPHONE
60	156.025	160.625	D	—	TELEPHONE
61	156.075	160.675	D	—	INTL
62	156.125	160.725	D	—	INTL
63	156.175	160.775	D	—	INTL
64	156.225	160.825	D	—	TELEPHONE
65	156.275	160.875	D	—	INTL
66	156.325	160.925	D	—	INTL
67	156.375	156.375	S	—	BRG/BRG
68	156.425	156.425	S	—	SHIP-SHIP
69	156.475	156.475	S	—	PLEASURE
70	—	156.525	S	—	DSC
71	156.575	156.575	S	—	PLEASURE
72	156.625	156.625	S	—	SHIP-SHIP
73	156.675	156.675	S	—	PORT OPR
74	156.725	156.725	S	—	PORT OPR
77	156.875	156.875	S	—	PORT OPR
78	156.925	161.525	D	—	INTL
79	156.975	161.575	D	—	INTL
80	157.025	161.625	D	—	INTL
81	157.075	161.675	D	—	INTL
82	157.125	161.725	D	—	INTL
83	157.175	161.775	D	—	INTL
84	157.225	161.825	D	—	TELEPHONE
85	157.275	161.875	D	—	TELEPHONE
86	157.325	161.925	D	—	TELEPHONE
87	157.375	161.975	D	—	TELEPHONE
88	157.425	162.025	D	—	TELEPHONE

DEFALT CHANNEL LIST (CANADA)

CH	TX (MHz)	RX (MHz)	S/D	LO PWR	CHANNEL NAME
01	156.050	160.650	D	—	TELEPHONE
02	156.100	160.700	D	—	TELEPHONE
03	156.150	160.750	D	—	TELEPHONE
04 A	156.200	156.200	S	—	CCG
05 A	156.250	156.250	S	—	VTS
06	156.300	156.300	S	—	SAFTY
07 A	156.350	156.350	S	—	COMMERCIAL
08	156.400	156.400	S	—	COMMERCIAL
09	156.450	156.450	S	—	CALLING
10	156.500	156.500	S	—	COMMERCIAL
11	156.550	156.550	S	—	VTS
12	156.600	156.600	S	—	VTS
13	156.650	156.650	S	LO	BRG/BRG
14	156.700	156.700	S	—	VTS
15	156.750	156.750	S	LO	COMMERCIAL
16	156.800	156.800	S	—	DISTRESS
17	156.850	156.850	S	LO	SAR
18 A	156.900	156.900	S	—	COMMERCIAL
19 A	156.950	156.950	S	—	COMMERCIAL
20	157.000	161.600	D	LO	PORT OPR
21 A	157.050	157.050	S	—	CCG
22 A	157.100	157.100	S	—	USCG
23	157.150	161.750	D	—	INTL
24	157.200	161.800	D	—	TELEPHONE
25	157.250	161.850	D	—	TELEPHONE
26	157.300	161.900	D	—	TELEPHONE
27	157.350	161.950	D	—	TELEPHONE
28	157.400	162.000	D	—	TELEPHONE
60	156.025	160.625	D	—	TELEPHONE
61 A	156.075	156.075	S	—	CCG
62 A	156.125	156.125	S	—	CCG
63	—	—	—	—	
64	156.225	160.825	D	—	TELEPHONE
64 A	156.225	156.225	S	—	COMMERCIAL
65 A	156.275	156.275	S	—	PORT OPR
66 A	156.325	156.325	S	LO	PORT OPR
67	156.375	156.375	S	—	BRG/BRG
68	156.425	156.425	S	—	SHIP-SHIP
69	156.475	156.475	S	—	PLEASURE
70	—	156.525	S	—	DSC
71	156.575	156.575	S	—	PLEASURE
72	156.625	156.625	S	—	SHIP-SHIP
73	156.675	156.675	S	—	PORT OPR
74	156.725	156.725	S	—	PORT OPR
77	156.875	156.875	S	LO	PORT OPR
78 A	156.925	156.925	S	—	SHIP-SHIP
79 A	156.975	156.975	S	—	SHIP-SHIP
80 A	157.025	157.025	S	—	SHIP-SHIP
81 A	157.075	157.075	S	—	CCG
82 A	157.125	157.125	S	—	CCG
83	157.175	161.775	D	-	CCG
83 A	157.175	157.175	S	-	CCG
84	157.225	161.825	D	-	TELEPHONE
85	157.275	161.875	D	-	TELEPHONE
86	157.325	161.925	D	-	TELEPHONE
87	157.375	161.975	D	-	TELEPHONE
88	157.425	162.025	D	-	TELEPHONE

DEFALT CHANNEL LIST (WEATHER CHANNEL)

CH	FREQUENCY	ENABLE/DISABLE	SCAN	CHANNEL NAME
WX01	162.550 MHz	Enable	Disable	162.550MHz
WX02	162.400 MHz	Enable	Disable	162.400MHz
WX03	162.475 MHz	Enable	Disable	162.475MHz
WX04	162.425 MHz	Enable	Disable	162.425MHz
WX05	162.450 MHz	Enable	Disable	162.450MHz
WX06	162.450 MHz	Enable	Disable	162.450MHz
WX07	162.525 MHz	Enable	Disable	162.525MHz
WX08	161.650 MHz	Enable	Disable	161.650MHz
WX09	161.775 MHz	Enable	Disable	161.775MHz
WX10	163.275 MHz	Enable	Disable	163.275MHz

EXPANSION CHANNEL FREQUENCY LIST

Position	RX (MHz)	TX (MHz)
0	160.600	156.000
1	160.650	156.050
2	160.700	156.100
3	160.750	156.150
4	160.800	156.200
5	160.850	156.250
6	160.900	156.300
7	160.950	156.350
8	161.000	156.400
9	161.050	156.450
10	161.100	156.500
11	161.150	156.550
12	161.200	156.600
13	161.250	156.650
14	161.300	156.700
15	161.350	156.750
16	161.400	156.800
17	161.450	156.850
18	161.500	156.900
19	161.550	156.950
20	161.600	157.000
21	161.650	157.050
22	161.700	157.100
23	161.750	157.150
24	161.800	157.200
25	161.850	157.250
26	161.900	157.300
27	161.950	157.350
28	162.000	157.400
29	162.050	157.450
30	162.100	157.500
31	162.150	157.550
32	162.200	157.600
33	162.250	157.650
34	162.300	157.700
35	162.350	157.750
36	162.400	157.800
37	162.450	157.850
38	162.500	157.900
39	162.550	157.950
40	162.600	158.000
41	162.650	158.050
42	162.700	158.100
43	162.750	158.150
44	162.800	158.200
45	162.850	158.250
46	162.900	158.300
47	162.950	158.350
48	163.000	158.400
49	163.050	158.450
50	163.100	158.500
51	163.150	158.550
52	163.200	158.600
53	163.250	158.650
54	163.300	158.700
55	163.350	158.750
56	163.400	158.800
57	163.450	158.850
58	163.500	158.900
59	163.550	158.950
60	160.625	156.025
61	160.675	156.075
62	160.725	156.125
63	160.775	156.175
64	160.825	156.225
65	160.875	156.275
66	160.925	156.325
67	160.975	156.375
68	161.025	156.425
69	161.075	156.475
70	156.525	-----
71	161.175	156.575
72	161.225	156.625
73	161.275	156.675
74	161.325	156.725
75	161.375	156.775
76	161.425	156.825
77	161.475	156.875
78	161.525	156.925
79	161.575	156.975
80	161.625	157.025
81	161.675	157.075
82	161.725	157.125
83	161.775	157.175
84	161.825	157.225
85	161.875	157.275
86	161.925	157.325
87	161.975	157.375
88	162.025	157.425
89	162.075	157.475
90	162.125	157.525
91	162.175	157.575
92	162.225	157.625
93	162.275	157.675
94	162.325	157.725
95	162.375	157.775
96	162.425	157.825
97	162.475	157.875
98	162.525	157.925
99	162.575	157.975
100	162.625	158.025
101	162.675	158.075
102	162.725	158.125
103	162.775	158.175
104	162.825	158.225
105	162.875	158.275
106	162.925	158.325
107	162.975	158.375
108	163.025	158.425
109	163.075	158.475
110	163.125	158.525
111	163.175	158.575
112	163.225	158.625
113	163.275	158.675
114	163.325	158.725
115	163.375	158.775
116	163.425	158.825
117	163.475	158.875
118	163.525	158.925
119	163.575	158.975
120	163.600	159.000
121	163.625	159.025
122	163.650	159.050
123	163.675	159.075
124	163.700	159.100
125	163.725	159.125
126	163.750	159.150
127	163.775	159.175
128	163.800	159.200
129	163.825	159.225
130	163.850	159.250
131	163.875	159.275
132	163.900	159.300
133	163.925	159.325
134	163.950	159.350
135	163.975	159.375
136	164.000	159.400
137	164.025	159.425

EXPANSION CHANNEL FREQUENCY LIST

Position	RX (MHz)	TX (MHz)
138	164.050	159.450
139	164.075	159.475
140	164.100	159.500
141	164.125	159.525
142	164.150	159.550
143	164.175	159.575
144	164.200	159.600
145	164.225	159.625
146	164.250	159.650
147	164.275	159.675
148	164.300	159.700
149	164.325	159.725
150	164.350	159.750
151	164.375	159.775
152	164.400	159.800
153	164.425	159.825
154	164.450	159.850
155	164.475	159.875
156	164.500	159.900
157	164.525	159.925
158	164.550	159.950
159	164.575	159.975
160	164.600	160.000
161	164.625	160.025
162	164.650	160.050
163	164.675	160.075
164	164.700	160.100
165	164.725	160.125
166	164.750	160.150
167	164.775	160.175
168	164.800	160.200
169	164.825	160.225
170	164.850	160.250
171	164.875	160.275
172	164.900	160.300
173	164.925	160.325
174	164.950	160.350
175	164.975	160.375
176	165.000	160.400
177	165.025	160.425
178	165.050	160.450
179	165.075	160.475
180	165.100	160.500
181	165.125	160.525
182	165.150	160.550
183	165.175	160.575
184	165.200	160.600
185	165.225	160.625
186	165.250	160.650
187	165.275	160.675
188	165.300	160.700
189	165.325	160.725
190	165.350	160.750
191	165.375	160.775
192	165.400	160.800
193	165.425	160.825
194	165.450	160.850
195	165.475	160.875
196	165.500	160.900
197	165.525	160.925
198	165.550	160.950
199	165.575	160.975
200	165.600	161.000
201	165.625	161.025
202	165.650	161.050
203	165.675	161.075
204	165.700	161.100
205	165.725	161.125
206	165.750	161.150
207	165.775	161.175
208	165.800	161.200
209	165.825	161.225
210	165.850	161.250
211	165.875	161.275
212	165.900	161.300
213	165.925	161.325
214	165.950	161.350
215	165.975	161.375
216	166.000	161.400
217	166.025	161.425
218	166.050	161.450
219	166.075	161.475
220	166.100	161.500
221	166.125	161.525
222	166.150	161.550
223	166.175	161.575
224	166.200	161.600
225	166.225	161.625
226	166.250	161.650
227	166.275	161.675
228	166.300	161.700
229	166.325	161.725
230	166.350	161.750
231	166.375	161.775
232	166.400	161.800
233	166.425	161.825
234	166.450	161.850
235	166.475	161.875
236	166.500	161.900
237	166.525	161.925
238	166.550	161.950
239	166.575	161.975
240	166.600	162.000
241	166.625	162.025
242	160.575	155.975
243	160.550	155.950
244	160.525	155.925
245	160.500	155.900
246	160.475	155.875
247	160.450	155.850
248	160.425	155.825
249	160.400	155.800
250	160.375	155.775
251	160.350	155.750
252	160.325	155.725
253	160.300	155.700
254	160.275	155.675
255	160.250	155.650
256	160.225	155.625
257	160.200	155.600
258	160.175	155.575
259	160.150	155.550
260	160.125	155.525
261	160.100	155.500
262	160.075	155.475
263	160.050	155.450
264	160.025	155.425
265	160.000	155.400
266	159.975	155.375
267	159.950	155.350
268	159.925	155.325
269	159.900	155.300
270	159.875	155.275
271	159.850	155.250
272	159.825	155.225
273	159.800	155.200
274	159.775	155.175
275	159.750	155.150

EXPANSION CHANNEL FREQUENCY LIST

Position	**RX** (MHz)	**TX** (MHz)
276	159.725	155.125
277	159.700	155.100
278	159.675	155.075
279	159.650	155.050
280	159.625	155.025
281	159.600	155.000

STANDARD HORIZON