IDT

IDT Communication Technology Ltd.

萬 威 通 訊 科 技 有 限 公 司

EVR-100
VHF Marine Radio

Owner's Manual

1. Your radio has the following features:

Congratulations on your purchase of a Eagle EVR-100 marine band VHF radio. It provides the following useful features:

Prominent channel display

Adjustable keypad backlighting for easy night-time use

Waterproof and submersible to comply with JIS-7

Choice of High or Low (7 W or 1 W) transmission power

Top centered PTT button for comfortable left- or right-handed use

Powerful 4 W external audio output

Access to all currently-available marine VHF channel bands (USA, Canada, International) including Weather channels where available

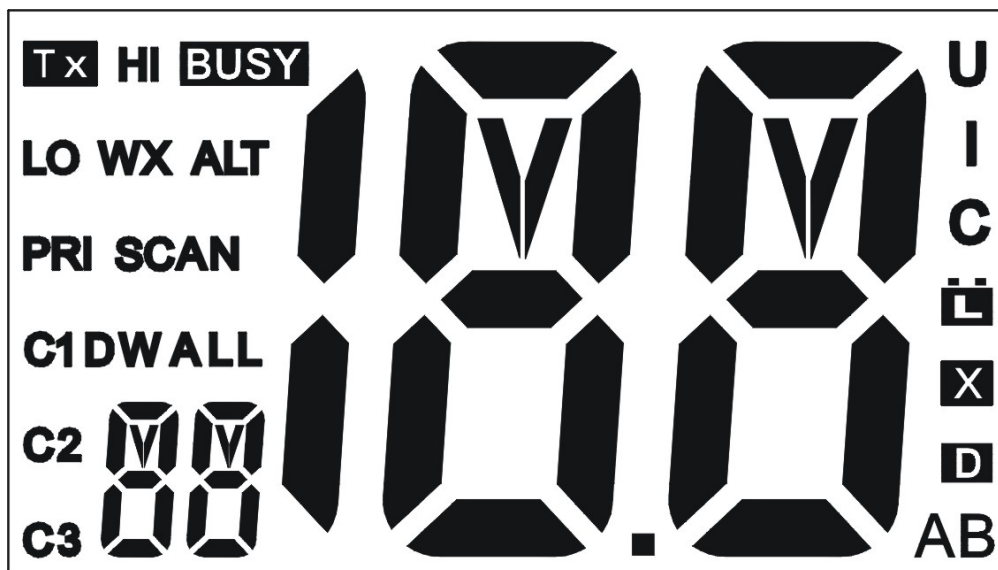*Special CH16 or CH16/9 key for quick access to the priority (international distress) channel*

Special 3CH key to select your three favorite channels

Weather alert facility where available

Squelch Adjustment to help eliminate noise between transmissions.

Battery Level Indicator ----shows the battery condition.
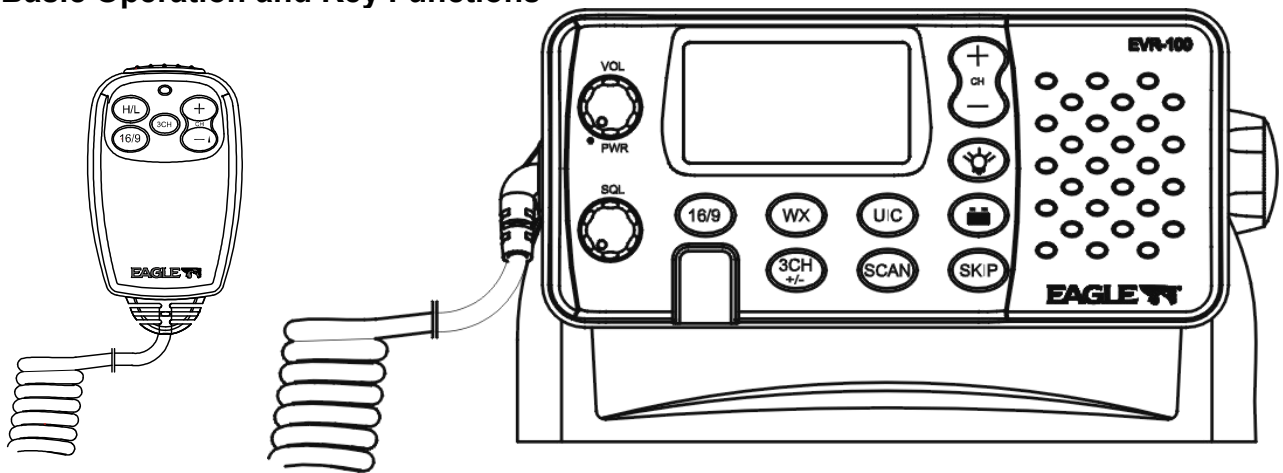
2. LCD Symbols and Meanings

Symbol	Meaning
TX	Transmitting
HI LO	Transmission power, High (H) 7W or Low (LO) 1W.
BUSY	Receiver busy with an incoming signal
WX	Weather channel
WX ALT	Weather Alert. Alarm beeps will sound.
PRI	Priority channel is selected
SCAN	Scanning channels
DW	Dual Watch mode

ALL	ALL channels scan mode
C1 C2 C3	Shows which of the 3 favourite channels, if any, are selected. Otherwise blank
88 (small)	
18.8 (BIG)	Channel selected
U I C	Selected Channel bank for VHF radio operations and regulations (USA, International, Canada)
L̈	Low Battery warning (activates at 10.5V)
X	Channel is temporarily deleted from the ALL SCAN operation
A B	Channel suffix, if applicable

3. Basic Operation and Key Functions

Key	Function
VOL/PWR	**Volume and Power.** Turn clockwise to power on. Continue to turn until a comfortable volume is reached. VOL/PWR will also adjust the settings of an external speaker, if connected
SQL	**Squelch or Threshold Level.** Sets the threshold level for the minimum receiver signal. Turn fully counterclockwise until random noise is heard, then turn slowly clockwise until the random noise disappears. Make another 1/4 turn clockwise for best reception in open sea conditions. In areas of high noise (e.g. close to large cities) reception may improve if sensitivity is reduced. Either turn SQL slowly clockwise or use the LOCAL setting. See section 2.3.
16/9	**Priority Channel.** *Also on the microphone*. Press to cancel all other modes and to tune into the priority channel. Press again to return to your original channel. The default is Channel 16. To make Channel 09 the priority channel, hold down 16/9 until a beep sounds and 09 is displayed.
WX	**Weather Channel.** In USA and Canadian waters, press to hear the most recently selected weather station. The WX symbol is displayed on the LCD. Press + or - to change to a different weather channel. Press WX again to return to the most recent channel. If the weather alert mode (ALT) is ON and an alert tone of 1050Hz is broadcast from

the weather station, it is picked up automatically and the alarm sounds. Press any key to hear the weather alert voice message.

UIC **Channel Bank.** Press to toggle between USA, International or Canadian channel banks. The selected channel bank is displayed on the LCD along with the last used channel. All the channel charts are shown in Appendix.

3CH +/- **Three Favourite Channels.** *Also on the microphone.* Press to toggle between your favourite channels. The C1, C2, or C3 symbol appears on the LCD to show which favourite channel is selected.

To scan only one of your favourite channels, press 3CH then immediately press and release SCAN. If you want to scan all three favourite channels, press 3CH then immediately press and hold SCAN.

To add a favourite channel for the first time, select that channel then hold 3CH to store it in the CH1 location. Repeat the procedure to store two more favourite channels in the CH2 and CH3 locations respectively.

If you try and add another favourite channel it will overwrite the existing CH1. CH2 and CH3 remain unless you delete them.

To delete a favourite channel, select that channel then hold down 3CH until the C1, C2 or C3 symbol disappears on the LCD.

SCAN **Scan.** Press to scan between your current channel and the priority channel in DUAL or TRI WATCH mode. The weather channel is also scanned if the USA channel bank is selected and the weather alert mode (ALT) is ON.

Hold down SCAN to enter ALL SCAN mode where the priority channel is checked every 1.5 seconds.

When a signal is received, scanning stops at that channel and BUSY appears on the screen. If the signal ceases for more than 5 seconds, the scan restarts.

Press ENT to temporarily skip over (lock out) an "always busy" channel when in ALL SCAN mode and resume the scan. An X is shown on the screen to designate a skipped channel. Note that it is not possible to skip over the priority channel.

Press SCAN again to stop at the current channel.

+ CH - **Channel Select.** *Also on the microphone.* The current channel is shown on the screen in BIG digits with an appropriate designator suffix A or B in small letters below the channel number.

Press + or - to step through the available channels one at a time, or hold down to scroll rapidly through all the available channels. See Appendix for a listing of channel charts.

 Backlight switch Press to turn on the backlighting, press again to turn off

 Battery Level Check Press to check the input battery voltage, battery level will appears on the LCD, 5 seconds later will disappears automatically

SKIP **Escape from ALL scan** To temporarily deleted the channel in ALL scan, select the channel then press the SKIP, the channel will be skipped in the later scanning, symbol appears on the LCD. Press SKIP again to cancel the escape of the channel.

H/L **Transmission Power**. *On the microphone ONLY* High (HI) 7W or Low (LO) 1W. Press to toggle between high or low transmission power for the entire channel bank. The HI or LO selection is shown on the LCD.

Some channels allow only low power transmissions. Error beeps will sound if the

power transmission setting is incorrect.

Some channels allow only low power transmissions initially, but can be changed to high power by holding down H/L and PTT at the same time. See Appendix for a complete listing of channel charts.

PTT   **Push To Talk.** *On the microphone ONLY*   Push to start the transmitting

4. Radio Operation

Turning On/Off Your Radio

Rotate *Power/volume* knob to turn the radio on or off with an indicating voice of click. And adjust the volume to a comfortable level.

Adjusting Squelch

Rotate **SQL** fully counterclockwise in advance, After **VOL** rotated to adjust the audio output level, then Rotate **SQL** clockwise until the noise disappears

Squelch is used to eliminate static and background noise and allows for silent operation of your radio until a transmission is received. If the squelch is too high, only the strongest transmissions can be heard, and when too low, intermittent static and noise are heard.

Selecting High/Low Power

Press and release this key to toggle the transmit power between high and low. When the unit is operating at low power, "Lo" appears on LCD and "Hi" appears on LCD when operating at high power.

[Some channels allow only low power transmissions. Error beeps will sound if the power transmission setting is incorrect. Some channels allow only low power transmissions initially, but can be changed to high power by holding down H/L and PTT at the same time. See Appendix for a complete listing of channel charts.]

Selecting Channels

Press the ▲/ ▼ *(UP/DOWN)*button to scroll through the available channels.

Note: Not all channel numbers are available in INT bands.

Transmitting and Receiving

Press and hold the Push-To-Talk (*PTT*) key to transmit on the selected channel, then release to receive. The TX indicator appears while transmitting.

Scanning Features

Your radio is equipped with 2 types of scan options: All Scan, 3CH Scan (Favourite Channel Scan). If there are no channels added as favourite channels, the default is All Scan. This function automatically searches for transmissions on the channel set being scanned. If a TX signal is received, the scan stops on the receiving channel as long as it is present and the SCAN indicator flashes. If the signal is lost for 3 seconds, the radio resumes scanning.

During the Scan Modes:

Press the Channel ▲/ ▼ (UP/DOWN) will escape from the SCAN mode.

Press *SCAN* button again to terminate the SCAN mode.

All Scan

Press and release the *SCAN* button to activate the All Scan function. The SCAN and ALL indicator appears on the LCD during All Scan. In All Scan mode, all channels in the channel set are scanned in sequence except the channel set as Cancel channel using SKIP button operation. After the last channel number has been scanned, the cycle repeats.

3CH Scan (Favourite Channels Scan)

Press 3CH button into 3CH shortcuts button when there is at least one favourite channel
Press and release the *SCAN* button to start 3CH Scan , the SCAN indicators appear on the LCD. Only the favourite channels and priority channels (CH16) are scanned in sequence.

> *Your radio can store up to three favourite channels. The favourite channels are the ones scanned in the 3CH Scan mode. Press 3CH shortly can access these favourite channels as shortcuts*
>
> #### *To Add Channels to 3CH List*
>
> *During normal operation mode, use the UP or DOWN key to select the desired channel for programming.*
>
> *Press and hold the **3CH** button for 3 seconds. The "C1" icon appears to indicate the current channel has been saved in first favourite channel. The similar to the second and third favourite as C2 and C3 respectively. Any number of channels can be saved as favourite channels*
>
> #### *To Delete Channels from 3CH List*
>
> *Press 3CH shortly into 3CH shortcuts mode, press 3CH repeatedly until the channel to be deleted.*
> *Press and Hold 3CH button more than 3 seconds until the "Cn" disappears*

Monitor Modes (Dual Watch)

The Watch Modes monitor the programmed Priority Channel (CH16) and other user selected channel. The watch is halted when activity is detected on a monitored channel.

Press SCAN shortly to activate the Dual Watch mode. The "DW" indicator appears on the LCD. Dual Watch monitors the current working channel and Channel 16 in cycle. Press SCAN button to terminate Dual Watch and return to the previous working channel.

> *Note: During Dual Watch mode, the SCAN and Channel ▲/ ▼(UP/DOWN) button are inactive and sounds an error beep if pressed.*
>
> *Monitor modes are terminated when the PTT once pressed.*

NOAA WEATHER CHANNELS

To receive a NOAA weather channel, press the [WX] key from any channel. The transceiver will go to the last selected weather channel.

Press the ▲/ ▼ *(UP/DOWN)*button to scroll through the available channels.

To exit from the NOAA weather channels, press the [WX] key. The transceiver returns to the channel it was on prior to a weather channel. Or press 16/9 to access the priority channels

NOAA WEATHER ALERT

In the event of extreme weather disturbances, such as storms and hurricanes, the NOAA (National Oceanic and Atmospheric Administration) sends a weather alert accompanied by a 1050 Hz tone and subsequent weather report on one of the NOAA weather channels.

When the Weather Alert feature is enabled, the transceiver is capable of receiving this alert

In the Weather channel, Press and hold Wx button more than 3 seconds to active the Alert function, LCD will appears "ALT". To cancel the alert function, Press and hold WX button more than 3 seconds again, the "ALT"

will disappears on the LCD.

NOAA WEATHER ALERT TESTING

NOAA tests the alert system ever Wednesday between 11AM and 1PM. To test the QUANTUM's

NOAA Weather feature, on Wednesday between 11AM and 1PM, setup as in description above and

confirm the alert is heard.

EMERGENCY (CHANNEL 16 USE)

Channel 16 is known as the Hail and Distress Channel. An emergency may be defined as a threat to life or property. In such instances, be sure the transceiver is on and set to CHANNEL 16. Then use the following procedure:

1. Press the microphone push-to-talk switch and say " Mayday, Mayday, Mayday. This is , , " (your vessel's name).

2. Then repeat once: " Mayday, " (your vessel's name).

3. Now report your position in latitude/longitude, or by giving a true or magnetic bearing (state which) to a well-known landmark such as a navigation aid or geographic feature such as an island or harbor entry.

4. Explain the nature of your distress (sinking, collision, aground, fire, heart attack, life-threatening injury, etc.).

5. State the kind of assistance your desire (pumps, medical aid, etc.).

6. Report the number of persons aboard and condition of any injured.

7. Estimate the present seaworthiness and condition of your vessel.

8. Give your vessel's description: length, design (power or sail), color and other distinguishing marks. The total transmission should not exceed 1 minute.

9. End the message by saying " OVER". Release the microphone button and listen.

10. If there is no answer, repeat the above procedure. If there is still no response, try another channel.

Resetting your Radio

You can reset many radio settings back to the factory defaults, all user setting such as favourite channels, current channel, channel bank .etc. will be cleared. To perform the reset:

1. Turn the radio OFF.
2. Simultaneously press and hold the *SCAN & UIC* buttons.
3. While continuing to hold these keys, power the radio ON. Until LCD appears "CC", release the two buttons to finish the resetting, the LCD switches to channel 16.

Appendix A – Technical Specification
TECHNICAL SPECIFICATIONS

Eagle EVR-100

GENERAL
Power Supply:	13.8V DC.
Current drain:	
Transmit	1.5 A at 7 W Tx / 0.6A at 1W Tx
Receive	Less than 250mA in standby
Useable channels:	International, USA, Canada, Weather (country speci.c)
Mode:	16K0G3E (FM)

PHYSICAL
LCD display (viewing):	41(H) x 53(W) mm
Dimming control:	Yes
Antenna connector:	SO-239 (50 ohm)
Temperature Range:	-15℃ to +50℃
Waterproof:	JIS-7
Dimensions:	161(W) x 75(H) x 147(D) mm - without bracket
Weight:	1.29 kg (2.8 lbs) - without microphone
Frequency stability:	+/- 10ppm
Frequency control:	PLL
GPS/NMEA input:	No
Comm. port:	1200 baud
DSC:	No

FEATURES
Flush Mount kit and	
dust cover:	Yes
Local/Distant control:	No
Position polling:	No
Group Call:	No
Channel Naming:	No
Dual watch, Favourite channel scan, All scan:	Yes

TRANSMITTER
Frequency:	156.025 - 157.425MHz
Output power:	7 W / 1 W selectable
Transmitter protection:	Open / short circuit of antenna
Max Freq deviation:	+/- 5kHz
Spurious & harmonics:	better than 2.5μ W
Modulation distortion:	Less than 4%@ 1kHz for a +/-3kHz deviation

RECEIVER
Frequency:	156.025 - 163.275 MHz
12dB SINAD sensitivity:	0.25uV
20db SINAD sensitivity:	0.35uV
Adjacent CH selectivity:	more than 65db
Spurious response:	more than 65 db
Inter-modulation Rejection ratio:	more than 65 db
Residual Noise level:	more than -40 db un-squelched
Audio output power:	2 W (with 8 ohm at 10% distortion)
	4 W with 4 ohm external speaker
Compass safe distance:	0.5 m (1.5')

Specification are subject to change without notice.

Appendix B – Troubleshooting

1. The transceiver will not power up.
A fuse may have blown OR there is no voltage getting to the transceiver.
    a) Check the power cable for cuts, breaks, or squashed sections.
    b) After checking the wiring, replace the 7 Amp fuse (1 spare fuse is supplied).
    c) Check the battery voltage. This must be greater than 10.5V.

2. The transceiver blows the fuse when the power is switched on.
    The power wires may have been reversed.
    a) Check that the red wire is connected to the positive battery terminal, and the black wire is connected to the negative battery terminal.

3. The speaker makes popping or whining noises when the engine is running.
Electrical noise may be interfering with the transceiver.
    a) Re-route the power cables away from the engine.
    b) Add a noise suppressor to the power cable.
    c) Use resistive spark plug wires and/or use an alternator whine filter

4. No sound from the external speaker.
    a) Check that the external speaker cable is physically connected.
    b) Check the soldering of the external speaker cable.

5. Transmissions are always on low power, even when high (HI) power is selected.
    The antenna may be faulty.
    a) Test the transceiver with a different antenna.
    b) Have the antenna checked out.

6. Battery symbol is displayed.
The power supply is too low or too high.
    a) Check the battery voltage. This should be at least 10.5V $\pm$ 0.5V DC.
    b) Check the alternator on the vessel.

Frequency List

CH	INT				CH	INT			
	FREQUENCY (MHz)					FREQUENCY (MHz)			
	TX	RX	MODE	REMARK		TX	RX	MODE	REMARK
1	156.050	160.650	D		60	156.025	160.625	D	
2	156.100	160.700	D		61	156.075	160.675	D	
3	156.150	160.750	D		62	156.125	160.725	D	
4	156.200	160.800	D		63	156.175	160.775	D	
5	156.250	160.850	D		64	156.225	160.825	D	
6	156.300	156.300	S		65	156.275	160.875	D	
7	156.350	160.950	D		66	156.325	160.925	D	
8	156.400	156.400	S		67	156.375	156.375	S	
9	156.450	156.450	S		68	156.425	156.425	S	
10	156.500	156.500	S		69	156.475	156.475	S	
11	156.550	156.550	S		70	156.525	156.525	S	DSC
12	156.600	156.600	S		71	156.575	156.575	S	
13	156.650	156.650	S		72	156.625	156.625	S	
14	156.700	156.700	S		73	156.675	156.675	S	
15	156.750	156.750	S	1W Only	74	156.725	156.725	S	
16	156.800	156.800	S		77	156.875	156.875	S	
17	156.850	156.850	S	1W Only	78	156.925	161.525	D	
18	156.900	161.500	D		79	156.975	161.575	D	
19	156.950	161.550	D		80	157.025	161.625	D	
20	157.000	161.600	D		81	157.075	161.675	D	
21	157.050	161.650	D		82	157.125	161.725	D	
22	157.100	161.700	D		83	157.175	161.775	D	
23	157.150	161.750	D		84	157.225	161.825	D	
24	157.200	161.800	D		85	157.275	161.875	D	
25	157.250	161.850	D		86	157.325	161.925	D	
26	157.300	161.900	D		87	157.375	161.975	D	
27	157.350	161.950	D		88	157.425	162.025	D	
28	157.400	162.000	D						

CH	USA				CH	USA			
	FREQUENCY (MHz)					FREQUENCY (MHz)			
	TX	RX	MODE	REMARK		TX	RX	MODE	REMARK
01A	156.050	156.050	S		61A	156.075	156.075	S	
03A	156.150	156.150	S		63A	156.175	156.175	S	
05A	156.250	156.250	S		64A	156.225	156.225	S	
6	156.300	156.300	S		65A	156.275	156.275	S	
07A	156.350	156.350	S		66A	156.325	156.325	S	
8	156.400	156.400	S		67	156.375	156.375	S	1W Only, Override
9	156.450	156.450	S		68	156.425	156.425	S	
10	156.500	156.500	S		69	156.475	156.475	S	
11	156.550	156.550	S		70	156.525	156.525	S	DSC
12	156.600	156.600	S		71	156.575	156.575	S	
13	156.650	156.650	S	1W Only, Override	72	156.625	156.625	S	
14	156.700	156.700	S		73	156.675	156.675	S	
15	-	156.750		Rx Only	74	156.725	156.725	S	
16	156.800	156.800	S		77	156.875	156.875	S	1W Only
17	156.850	156.850	S	1W Only	78A	156.925	156.925	S	
18A	156.900	156.900	S		79A	156.975	156.975	S	
19A	156.950	156.950	S		80A	157.025	157.025	S	
20	157.000	161.600	D		81A	157.075	157.075	S	
20A	157.000	157.000	S		82A	157.125	157.125	S	
21A	157.050	157.050	S		83A	157.175	157.175	S	
22A	157.100	157.100	S		84	157.225	161.825	D	
23A	157.150	157.150	S		85	157.275	161.875	D	
24	157.200	161.800	D		86	157.325	161.925	D	
25	157.250	161.850	D		87	157.375	161.975	D	
26	157.300	161.900	D		88	157.425	162.025	D	
27	157.350	161.950	D		88A	157.425	157.425	S	
28	157.400	162.000	D						

CH	CAN				CH	CAN			
	FREQUENCY (MHz)					FREQUENCY (MHz)			
	TX	RX	MODE	REMARK		TX	RX	MODE	REMARK
1	156.050	160.650	D		28B	-	162.000		Rx Only
2	156.100	160.700	D		60	156.025	160.625	D	
3	156.150	160.750	D		61A	156.075	156.075	S	
04A	156.200	156.200	S		62A	156.125	156.125	S	
05A	156.250	156.250	S		64	156.225	160.825	D	
6	156.300	156.300	S		64A	156.225	156.225	S	
07A	156.350	156.350	S		65A	156.275	156.275	S	
8	156.400	156.400	S		66A	156.325	156.325	S	1W Only
9	156.450	156.450	S		67	156.375	156.375	S	
10	156.500	156.500	S		68	156.425	156.425	S	
11	156.550	156.550	S		69	156.475	156.475	S	
12	156.600	156.600	S		70	156.525	156.525	S	DSC
13	156.650	156.650	S	1W Only, Override	71	156.575	156.575	S	
14	156.700	156.700	S		72	156.625	156.625	S	
15	156.750	156.750	S	1W Only	73	156.675	156.675	S	
16	156.800	156.800	S		74	156.725	156.725	S	
17	156.850	156.850	S	1W Only	77	156.875	156.875	S	1W Only
18A	156.900	156.900	S		78A	156.925	156.925	S	
19A	156.950	156.950	S		79A	156.975	156.975	S	
20	157.000	161.600	D	1W Only	80A	157.025	157.025	S	
21	157.050	161.650	D		81A	157.075	157.075	S	
21A	157.050	157.050	S		82A	157.125	157.125	S	
21B	-	161.650		Rx Only	83	157.175	161.775	D	
22A	157.100	157.100	S		83A	157.175	157.175	S	
23	157.150	161.750	D		83B	-	161.775		Rx Only
24	157.200	161.800	D		84	157.225	161.825	D	
25	157.250	161.850	D		85	157.275	161.875	D	
25B	-	161.850		Rx Only	86	157.325	161.925	D	
26	157.300	161.900	D		87	157.375	161.975	D	
27	157.350	161.950	D		88	157.425	162.025	D	
28	157.400	162.000	D						

CH	WX				CH	WX			
	FREQUENCY (MHz)					FREQUENCY (MHz)			
	TX	RX	MODE	REMARK		TX	RX	MODE	REMARK
WX01	-	162.550			WX06	-	162.500		
WX02	-	162.400			WX07	-	162.525		
WX03	-	162.475			WX08	-	161.650		
WX04	-	162.425			WX09	-	161.775		
WX05	-	162.450			WX10	-	163.275		