



Vertex Standard

CE27 EEPROM PROGRAMMING SOFTWARE REFERENCE MANUAL

The CE27 is used to program the VXR-7000 Desktop Repeater. With the CE27 Programming Software, you can quickly and easily program the Vertex VXR-7000 repeater's channels and configuration from your personal computer. In the event of an accidental memory failure, repeater memory and configuration data may be re-loaded in a matter of minutes.

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Important Note!

Do not work directly with the CE27 programming diskette. Make a copy of it and use the copy when programming the VXR-7000. Keep it and the original distribution diskette in a safe place in case you need to make another copy of it later.

INSTALLING THE PROGRAM

The CE27 programming diskette contains the following files:

- ☐ CE27.EXE
- ☐ CE27.HLP

Before connecting the VXR-7000 for programming, turn off both the computer and the VXR-7000. Now connect the VPL-1 Connection Cable to the computer's serial port and the VXR-7000 front panel **MIC** jack.

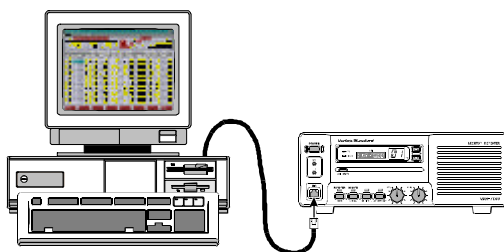
Then it will be safe to restart the computer; turning off the equipment during interconnection avoids the potential for damage to the electronics caused by voltage spikes.

Insert the distribution diskette into your 3½" drive (after booting DOS), and make a copy of the diskette; use the distribution diskette for archive purposes, and use the disk copy for programming.

Place the CE27 (copy) diskette into your 3½" drive (usually "Drive A"), and log onto this drive by typing "**A:** [**ENTER**]", then load the contents of the CE27 diskette into a directory named CE27, using the COPY command (e.g. "**COPY A:*. * C:\CE27**").

Now type "**CE27** [**ENTER**]" to start the program. The introductory screen will appear, and you may press any key to enter the main screen.

Choose the "Help" contents option (**[F1]** key) from the program's Menu for assistance with channel programming or setting of parameters.



VXR-7000 Programming Setup

Important Note!

Before creating the programming data via the CE27 programming software, upload the current hardware environment data from the repeater by **[F5]** (ReadRom) key, first time. See page 9 for details regarding the **[F5]** (ReadRom) key.

THE CHANNEL PROGRAMMING SCREEN

The main Screen consists of four major sections: **Common Data Items**, **Key Help**, **Channel Data**, and **Function Key Selections**.

Common Data Items

At the upper left are found the **Edit**, **Band**, **Serial No.** and **COM Port** items, which are “Common” Data items that you may need to refer to when making entries in the Channel Data.

The **Edit** entry is the name of the current data file being edited, if any. If no file has been read (via the [F3] key, “**DiskLoad**” function) or Saved (via the [F4] key, “**DiskSave**” function), “**noname.rpt**” is displayed here.

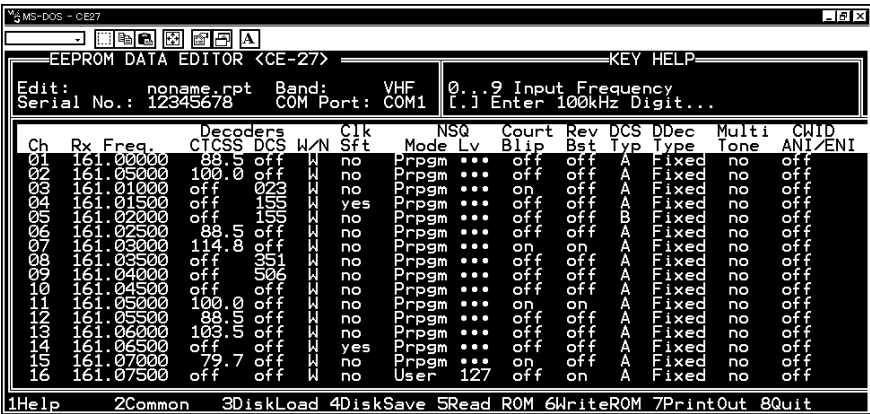
The **Band** entry indicates the operating frequency band of your repeater. “**VHF**” or “**UHF**” are automatically set and should *not be altered* unless you change repeaters.

The **Serial No.** entry indicates your repeater’s product identification number. The product number is entered from the “**HARDWARE ENVIRONMENT**” window. See page 19 for details.

The **COM Port** entry indicates which Serial Port on your computer is to be connected to the **VPL-1** Control Cable.

Common Data cannot be changed from this screen.

CE27 Main Screen (Left)



THE CHANNEL PROGRAMMING SCREEN

Key Help Box

The **Key Help** box at the upper right indicates the keyboard keys that can be used to edit data at any given moment. The contents of this box change according to the location of the cursor in the Channel Data table, so you will need to watch this box while becoming familiar with the channel editor. For example, when the program first starts, you will see “**Rx Freq.**” (Receiving Frequency) field, which indicates that you can enter the receiving frequency into the current channel from the [0] ~ [9] and [•] keys on the PC’s keyboard.

You can press the [F1] key for more detailed help on the functions of particular keys in the current cursor field. Of course, you can always use the cursor keys to select another field (unless you are in the middle of entering new field data).

Channel Data Table

The largest section of the screen is the Channel Data table. Press the [UP], [DOWN], [LEFT] and [RIGHT] arrow keys on the PC’s keyboard to move the cursor around the table (you may have to press the [Num Lock] key to switch the keypad from numeric to cursor movement mode if your keyboard does not have separate cursor keys). Each line in the editing table represents one channel, with the columns indicating the current setting of each parameter that can be set for that channel. Hyphens indicate that a parameter is not currently being used. If all of the fields on a line are hyphens, the channel is currently blanked (hidden from use).

Note that, to access the right-most columns (“**Action Mode**,” “**Tx Freq.**,” “**Encoders CTCSS**” etc.), just move the cursor to the right from the right-most edge of the screen. The table will scroll sideways to reveal the additional columns.

CE27 Main Screen (Scrolled Right)

EEPROM DATA EDITOR <CE-27>														
Edit: noname.rpt					Band: VHF					KEY HELP				
Serial No.: 12345678					COM Port: COM1					[SPACE] Toggle Action Mode Simplex/Duplex				
Ch	Action Mode	Tx Freq.	Encoders CTCSS	DCS	Base TOT	Base Guard	LOUT	Pwr	TOT Mute	Rpt10T Use	Rpt10T Beep	RPT HT	RPT GT	
01	Duplex	161.50000	88.5	off	no	no	off	Hi	off	no	no	no	no	
02	Duplex	161.55000	100.0	off	no	no	off	Hi	off	no	no	no	no	
03	Duplex	161.60000	off	023	no	no	BTLO	Lo	off	no	no	no	no	
04	Duplex	161.65000	off	155	no	no	BTLO	Lo	off	no	no	no	no	
05	Duplex	161.70000	off	155	no	no	off	Hi	off	no	no	no	no	
06	Duplex	161.75000	88.5	off	no	no	off	Hi	off	no	no	no	no	
07	Duplex	161.80000	114.8	off	no	no	off	Hi	off	no	no	no	no	
08	Duplex	161.85000	off	951	no	no	off	Hi	off	no	no	no	no	
09	Duplex	161.90000	off	906	no	no	off	Hi	off	no	no	no	no	
10	Duplex	161.95000	off	off	no	no	BCL0	Hi	off	no	no	no	no	
11	Duplex	162.00000	100.0	off	no	no	off	Hi	off	no	no	no	no	
12	Duplex	162.05000	88.5	off	no	no	off	Hi	off	no	no	no	no	
13	Duplex	162.10000	103.5	off	no	no	off	Hi	off	no	no	no	no	
14	Duplex	162.15000	off	off	no	no	off	Hi	off	no	no	no	no	
15	Duplex	162.20000	79.7	off	no	no	off	Hi	off	no	no	no	no	
16	Duplex	162.25000	off	off	yes	yes	BCL0	Hi	on	yes	yes	yes	yes	

1Help 2Common 3DiskLoad 4DiskSave 5Read ROM 6WriteROM 7PrintOut 8Quit

THE CHANNEL PROGRAMMING SCREEN

Ch: *Channel Number.*

This 2-digit number (“01” ~ “16”) is used to identify the channel. Channel numbers occur in sequence, and their order can not be changed.

Rx Freq.: *Edit Receive (or simplex) Frequency.*

Use the [0] ~ [9] keys to enter the desired channel frequency directly, and press the [ENTER] key.

Decoders CTCSS: *Toggle CTCSS Decoder ON/OFF, set CTCSS Frequency.*

Press the [SPACE] bar to toggle the CTCSS Decoder “on” or “off,” or press the [ENTER] key to display the “**TONE SELECT**” window, from which you may select a CTCSS frequency using the [ARROW] key; press [ENTER] again to accept the selected tone, or press [Esc] key to cancel.

Tone	Select	71	74
57.3	69.3	82	85.4
59.9	94	107	97.4
69.3	104	119	119.3
71	113	123	127
74	126	141	146
77.3	136	151	156
79.9	173	186	192
82	210	248	253
85.4	219	254	199
88	189	196	196
91.3	229	1	1

Decoders DCS: *Toggle DCS Decoder ON/OFF, set DCS Code number.*

Press the [SPACE] bar to toggle the DCS Decoder “on” or “off,” or press the [ENTER] key to display the “**CODE SELECT**” window, from which you may select a DCS code using the [ARROW] key; press [ENTER] again to accept the selected code, or press [Esc] key to cancel.

Code	Select	031	032	036	043	047
023	025	026	065	071	072	073
051	053	054	065	071	072	073
114	115	116	123	126	131	132
143	145	146	152	156	161	162
174	205	212	223	226	233	244
245	246	251	255	256	263	264
332	343	346	356	361	365	371
411	412	413	416	421	425	431
452	454	455	464	465	466	503
506	516	523	532	546	565	566
512	524	527	532	546	565	566
603	712	723	731	732	743	754

W/N: *Wide/Narrow Channel Spacing.*

This function selects the channel spacing environment in which the VXR-7000 operates.

W (Wide) = 25 kHz Channel Spacing, ± 5 kHz Deviation.

N (Narrow) = 12.5 kHz Channel Spacing, ± 2.5 kHz Deviation.

Press the [SPACE] bar to select the desired channel spacing environment.

Clk Sft: *Enable/disable the CPU Clock Shift.*

This function is only used to move a spurious response “birdie” should it fall on a current frequency.

Press the [SPACE] bar to toggle “yes” or “no.”

NSQ Mode: *Noise Squelch Mode.*

This command selects the manner of setting of the Squelch threshold level.

User = The squelch threshold level is fixed via the **NSQ Lv** parameter (below) (**NSQ Lv**: 0 [min.] ~ 255 [max.]).

Prpgrm = The squelch threshold level is fixed to the programmed values which is determined via the “**HARDWARE ENVIRONMENT**” window; see page 19 for details.

Press the [SPACE] bar to select the desired NSQ Mode.

THE CHANNEL PROGRAMMING SCREEN

NSQ Lv: Noise Squelch threshold level.

Use the [0] ~ [9] keys to enter the desired Squelch threshold level directly, and press the [ENTER] key. Available Values are 0 (min.) ~ 255 (max.).

Court Blip: Courtesy Blip.

When this parameter select “**on**,” this function causes the VXR-7000 to send out a “blip” on the portable/mobile radio is frequency each time the portable radio is unkeyed. This provides audible confirmation to the user that the VXR-7000 was able to receive the transmission from the portable/mobile.

Press the [SPACE] bar to toggle “**on**” or “**off**.”

Rev Bst: Reverse Burst.

When this parameter is set to “**on**,” the CTCSS tone’s phase will be inverted just before the repeater returns to receive.

Press the [SPACE] bar to toggle “**on**” or “**off**.”

DSC Typ: DCS Format.

This command is effective only when DCS is chosen for squelch control.

A = “Normal” DCS

B = “Inverted” (complement) DCS

Press the [SPACE] bar to select the desired DCS Type.

DDec Type: DCS Decoder Type.

This command selects the manner in which DCS is to be decoded.

Fixed = Decodes only the type selected in the above parameter (**DCS Typ**: Normal or Inverted).

Auto = Both types (Normal and Inverted) will be decoded.

Press the [SPACE] bar to select the desired DCS Decoder Mode.

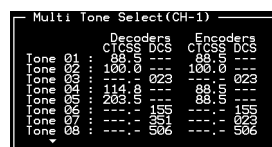
Multi Tone: Enable/disable the Multi Tone Operation.

Press the [SPACE] bar to toggle the Multi Tone Operation between selections “**yes**” and “**no**.”

Press the [ENTER] key to display the “**MULTI TONE SELECT**” window, from which you may select a CTCSS tone or DCS code; move the cursor to the appropriate field you using the [ARROW] key, then press the [ENTER] key to open the “**TONE SELECT**” or “**CODE SELECT**” window. Now select the desired CTCSS tone or DCS code using the [ARROW] key, then press the [ENTER] key again to accept the selected tone or code, or press [Esc] key to cancel.

You may set as many as 16 CTCSS tones and/or DCS codes.

Note that, if you do not yet program a CTCSS tone or DCS code in the “**MULTI TONE**



THE CHANNEL PROGRAMMING SCREEN

SELECT” window (when the **“MULTI TONE SELECT**” window data is not programmed), press the **[SPACE]** bar to display the **“MULTI TONE SELECT**” window directly.

CWID ANI/ENI: *Select the Identifier mode.*

Press the **[SPACE]** bar to toggle the selections **“CW ID,” “ANI/ENI,”** or **“off.”** To select this feature to the **“CW ID”** or **“ANI/ENI,”** the **“CW ID”** parameter must be enabled via the **“EDIT COMMON DATA”** window; see page 13 for details.

Action Mode: *Select the repeater operation mode.*

Press the **[SPACE]** bar to toggle between **“Duplex”** operation or **“Simplex”** operation.

Tx Freq.: *Edit Transmit Frequency.*

Use the **[0] ~ [9]** keys to enter the desired channel frequency directly, and press the **[ENTER]** key.

Encoders CTCSS: *Toggle CTCSS Encoder ON/OFF, set CTCSS Frequency.*

Press the **[SPACE]** bar to toggle the CTCSS Encoder **“on”** or **“off,”** or press **[ENTER]** key to display the **“TONE SELECT”** window, from which you may select a CTCSS frequency using the **[ARROW]** key; press **[ENTER]** again to accept the selected tone, or press the **[Esc]** key to cancel.

Tone	Select
67	69.3
77	71.9
88	91.5
100	103.5
114	118.2
131	136.5
146	147.0
151	157.3
167	173.8
173	177.3
210	210.7
229	229.1
240	240.0
263	263.7
273	273.0
296	296.3
310	310.7
344	344.0
379	379.4
411	411.0
435	435.3
462	462.0
501	501.3
518	518.0
546	546.3
579	579.0
600	600.0
623	623.0
643	643.0
670	670.0
696	696.0
719	719.0
744	744.0

Encoders DCS: *Toggle DCS Encoder ON/OFF, set DCS Code #.*

Press the **[SPACE]** bar to toggle the DCS Encoder **“on”** or **“off,”** or press **[ENTER]** key to display the **“CODE SELECT”** window, from which you may select a DCS code using the **[ARROW]** key; press **[ENTER]** again to accept the selected code, or press the **[Esc]** key to cancel.

Code	Select
023	023
051	051
114	114
143	143
174	174
246	246
265	265
322	322
411	411
432	432
452	452
506	506
612	612
703	703
025	025
053	053
115	115
145	145
175	175
247	247
267	267
323	323
413	413
433	433
453	453
507	507
613	613
704	704
031	031
071	071
123	123
156	156
166	166
269	269
311	311
356	356
423	423
434	434
464	464
536	536
636	636
731	731
032	032
072	072
124	124
167	167
272	272
313	313
366	366
435	435
465	465
537	537
637	637
732	732
036	036
073	073
125	125
168	168
273	273
315	315
367	367
436	436
466	466
538	538
638	638
733	733
043	043
074	074
126	126
169	169
274	274
316	316
368	368
437	437
467	467
539	539
639	639
734	734
047	047
075	075
127	127
170	170
275	275
317	317
369	369
438	438
468	468
540	540
640	640
735	735

Base TOT: *Enable/disable the Time-Out Timer while in the “BASE” station mode.*

Press the **[SPACE]** bar to toggle the TOT feature selections **“yes”** or **“no.”**

The TOT time is determined via the **“EDIT COMMON DATA”** window; see page 12 for details.

Base Guard: *Enable/disable the Base Guard Feature.*

When this parameter is set to **“yes,”** the transmitter will be inhibited a desired number of seconds before the repeater is unkeyed while operating in the **“BASE”** mode.

The inhibit time is determined via the **“EDIT COMMON DATA”** window; see page 12 for details.

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LOUT: *Select the Lock Out Feature's mode.*

Press the [**SPACE**] bar to toggle the Lock Out Feature between “**BCLO**,” “**BTLO**,” or “**off**,” then press the [**ENTER**] key to accept the setting. “**BCLO**” inhibits transmitting while there is carrier present. “**BTLO**” inhibits transmitting while there is carrier present unless there is also valid tone present.

TX Pwr: *Transmitter Power Output Selection.*

This parameter selects the desired power output from the VXR-7000 on the current channel. The available values are **HIGH** and **LOW**.

Press the [**SPACE**] bar to select “**Hi**” or “**Lo**.”

TOT Mute: *Enable/disable the TOT beep monitoring.*

When this parameter is set to “**on**,” the alert beep will sound from the front panel speaker before the repeater turns itself off.

RptTOT Use: *Enable/disable the Time-Out Timer while operating in the repeater mode.*

Press the [**SPACE**] bar to toggle the Repeater TOT selections “**yes**” or “**no**.”

The TOT time is determined via the “**EDIT COMMON DATA**” window; see page 13 for details.

RptTOT Beep: *Enable/disable the TOT beep transmission.*

Press the [**SPACE**] bar to toggle the TOT beep selections “**yes**” or “**no**.”

When this parameter is set to “**yes**,” the alert beep will be sent out on the air before the repeater turns itself off, while operating in the “Repeater” mode.

RPT HT: *Enable/disable the Repeater Hang-on Timer.*

Press the [**SPACE**] bar to toggle the Repeater Hang-on Timer selections “**yes**” or “**no**.”

When this parameter is set to “**yes**,” the repeater will remain keyed for a desired number of seconds after a receiving carrier is dropped.

The Hang-on time is determined via the “**EDIT COMMON DATA**” window; see page 13 for details.

RPT GT: *Enable/disable the Repeater Guard.*

When this parameter is set to “**yes**,” the transmitter will be inhibited a desired number of seconds before the repeater is unkeyed.

The inhibit time is determined via the “**EDIT COMMON DATA**” window; see page 13 for details.

THE CHANNEL PROGRAMMING SCREEN

Function Key Selections

The main features of the program are indicated along the bottom of the screen, and are accessible by pressing the corresponding function keys ([F1] to [F8], located along the left side or top of your keyboard). You will always return to this screen after completing one of the actions listed, and can then edit channel data, select another feature, or quit.

1Help 2Common 3DiskLoad 4DiskSave 5Read ROM 6WriteROM 7PrintOut 8Quit

[F1]: Help

Pressing this key anywhere in the program will invoke the on-line help feature. The help displayed will depend on where the cursor is when the [F1] key was pressed. Pressing the [Esc] key returns you to normal program operation. If more help is available, press [F1] or [ENTER] to switch to the next help window.

```
HELP 1
(Edit Rx/Simplex Frequency & Hide/Unhide Channel Data)

Use 0 - 9 to enter the desired channel frequency, and press
Enter. This frequency will be adjusted if it does not match
the Channel Step parameter, and will also appear in the TX
Freq field. You do not need to enter all 8 digits; empty
digits to the right are zero-filled. Pressing [.] (period)
after several digits forces them to MHz. Press period first
to change only kHz.

Pressing only the Space Bar without entering a number
toggles the data for the entire channel between hidden and
unhidden (except the first channel, which cannot be hidden).
Hidden channels display "--" in place of field entries, and
are not used for operation (although they are still stored
in hidden form for possible recall later).
[ Enter/F1 ] for MORE Help, [ Esc ] to resume --
```

[F2]: Common

Press this key to display the “**EDIT COMMON DATA**” window. If you intend to edit any parameter in this window, execute the CE27 programming software with the “**D**” option (type “**CE27-D**” [ENTER]).

```
EDIT COMMON DATA

Band Select: VHF          IF: Reference: 21.40 MHz
Duplexer Installed: no    TX Reference: 14.40 MHz
Beep Enable: yes         TX Power Type: 14.40 MHz
Monitor Enable: yes      DC TX Power Low: yes 50 W
1st Local Offset: Lower  HI-Temp TX Pwr Low: no
2nd Local Offset: Lower  Base T.O.T: 3.0 Min
Accessory: High/Low      Base Guard Time: 3.0 Min
MIC, Moni Enable: yes    Repeat T.O.I: 3.0 Min
Fan Alert Enable: yes    Repeat HangOn Time: 24 Sec
Hang On Audio: Quiet     Repeat Guard Time: 10 Sec
CH Step: S/6.25 KHz      CH ID: 00
COM Port: COM1           DTMF ANI/ENI: 00
S-Tone ANI/ENI: off     RX Enable
```

See page 19 for details. Pressing the [Esc] key returns you to normal program operation.

[F3]: DiskLoad

Pressing this key displays the “**FILE DIRECTORY**” window, which downloads the data available from the disk file. Select the desired file using the [ARROW] key, then press the [ENTER] key, to download the data file. Pressing the [Esc] key returns you to normal program operation.

```
<.. > noname.rpt rpt_1.rpt vxr-7000.rpt

File to Load C:\CE27\*.rpt
```

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[F4]: DiskSave

Pressing this key displays the “**FILE DIRECTORY**” window, which saves the Data to a disk file. To save the Data, type the file name (up to eight letters) with the extension “**.rpt**,” then press the **[ENTER]** key.



[F5]: Read ROM

Pressing this key uploads data from the repeater. Make the proper connections and turn on power before pressing this key.



[F6]: Write ROM

Pressing this key downloads data to the repeater.



[F7]: Print Out

Pressing this key prints a copy of the current data. Or you may use this command to view data without making any changes.

To print a displayed page on the printer, just press the **[PRINT SCREEN]** key.



[F8]: Quit

Press this key to quit the CE27 Programming Software.

“EDIT COMMON DATA” WINDOW

To open the “EDIT COMMON DATA” window, just press the [F2] (Common) key. If you intend to edit a parameter in this window, execute the CE27 programming software with the “/D” option (type “CE27-D” [ENTER]).

Band Select: *VHF/UHF Operating Band Selection.*

Press the [SPACE] bar to toggle the operating band between “VHF” or “UHF,” so as to match to your repeater’s version (VHF or UHF).

Duplexer Installed: *Duplexer Status.*

Press the [SPACE] bar to toggle the (internal Antenna) Duplexer status between “yes” and “no.” When you install the Antenna Duplexer into the repeater, this parameter must be set to “yes.”

Beeper Enable: *Enable/disable the keypad beeper.*

Press the [SPACE] bar to toggle the keypad beeper selections between “yes” and “no.” When this parameter is set to “no,” the keypad beeper is disabled.

Monitor Enable: *Enable/disable the Front Panel Monitor Switch.*

Press the [SPACE] bar to toggle the Front Panel MONITOR switch function selections between “yes” and “no.” When this parameter is set to “no,” the MONITOR switch is disabled.

1st Local Offset: *Select the 1st IF Heterodyne Shift Direction.*

Press the [SPACE] bar to toggle the repeater’s 1st IF heterodyne shift direction between “Upper” and “Lower.” This parameter should not be changed (to Upper) unless your repeater is modified.

2nd Local Offset: *Select the 2nd IF Heterodyne Shift Direction.*

Press the [SPACE] bar to toggle the repeater’s 2nd IF heterodyne shift direction between “Upper” and “Lower.” This parameter should not be changed (to Upper) unless your repeater is modified.

“EDIT COMMON DATA” Window

EDIT COMMON DATA			
Band Select:	VHF	IF:	21.40 MHz
Duplexer Installed:	no	RX Reference:	14.40 MHz
Beeper Enable:	yes	TX Reference:	14.40 MHz
Monitor Enable:	yes	TX Power Type:	50 W
1st Local Offset:	Lower	DC TX Power Low:	yes
2nd Local Offset:	Lower	HI-Temp TX Pwr Low:	no
Accessory:	High/Low	Base T.O.T:	3.0 Min
MIC. Moni Enable:	yes	Base Guard Time:	3.0 Sec
Fan Alert Enable:	yes	Repeat T.O.T:	3.0 Min
Hi-Temp Alert:	yes	Repeat HangOn Time:	2.0 Sec
Hang On Audio:	Quiet	Repeat Guard Time:	10 Sec
CH Step:	5/6.25 KHz	CW ID:	on
COM Port:	COM1	DTMF ANI/ENI:	RX Enable
		5-Tone ANI/ENI:	off

“EDIT COMMON DATA” WINDOW

Accessory: *Select the Front Panel Accessory Switch Function.*

Press the [SPACE] bar to toggle the front panel's **ACCESSORY** Switch function between “**High/Low**” and “**ACC.**”

MIC. Moni. Enable: *Enable/disable the Microphone's Monitor Button.*

Press the [SPACE] bar to toggle the microphone's Monitor Button feature between “**yes**” or “**no.**”

When using the optional Base Microphone, this parameter is set to “**yes**” to enable the microphone's Monitor Button.

Note: When this parameter is set to “**yes**,” the repeater's **MONITOR** LED glows green continuously when you unplug the Base Microphone.

Fan Alert Enable: *Enable/disable the Fan Alert Feature.*

Press the [SPACE] bar to toggle the Fan Alert feature selections between “**yes**” and “**no.**”

When this parameter is set to “**yes**,” the Channel Indicator will display an Alert Message (“**FE**”) should the cooling fan have a mechanical (accumulated dirt and dust) and/or electrical (such as a broken fan motor coil) problem.

HI-Temp Alert: *Enable/disable the HI-Temp Alert Feature.*

Press the [SPACE] bar to toggle the HI-Temp Alert feature selections between “**yes**” and “**no.**”

When this parameter is set to “**yes**,” the Channel Indicator will display an Alert Message (“**Hi**”) if the final transistor should overheat.

Hang On Audio: *Select the Hang On Audio Feature mode.*

Press the [SPACE] bar to toggle the Hang On Audio Feature between “**Quiet**” and “**Noise.**”

When this parameter is set to “**Quiet**,” the repeater's speaker will be quiet when no signal is being received.

When this parameter is set to “**Noise**,” the repeater's speaker will put out muted (20 dB down) noise when no signal is being received.

CH Step: *Select the Channel Step Size.*

Press the [SPACE] bar to toggle the channel step size between “**2.5/6.25**” and “**5/6.25.**” This allows you to select the channel step size which matches your repeater's channel step size requirements.

Selection is available in VHF repeaters only. UHF repeaters are fixed at “**5/6.25**” only.

COM Port: *Select the computer's COM Port.*

Press the [SPACE] bar to toggle the COM Port between “**COM1**” and “**COM2**,” corresponding to the COM Port to which your **VPL-1** Connection Cable is connected.

“EDIT COMMON DATA” WINDOW

IF: *1st IF Frequency.*

Use the [0] ~ [9] and [•] keys to enter the 1st IF frequency directly, and press the [ENTER] key. This parameter must not be changed (from 21.40 MHz) unless your repeater is modified.

RX Reference: *RX Reference frequency.*

Use the [0] ~ [9] and [•] keys to enter the RX Reference frequency directly, and press the [ENTER] key. This parameter must not be changed (from 14.40 MHz) unless your repeater is modified.

TX Reference: *TX Reference frequency.*

Use the [0] ~ [9] and [•] keys to enter the TX Reference frequency directly, and press the [ENTER] key. This parameter must not be changed (from 14.40 MHz) unless your repeater is modified.

TX Power Type: *Select the Maximum TX Output Power.*

Press the [SPACE] bar to toggle the maximum TX output power between “50W” and “25W.”

You can adjust the TX output power for each operating channel individually via the [F3] (TXP Adj) key.

DC Power Low:

Enable/disable the TX Power Reduction while operating on a DC Power Supply or Battery.

When this parameter is set to “yes,” the TX output power will automatically be reduced to the “LOW” power selection when a DC power source is detected. Power output will return to “HIGH” when AC power is restored.

HI-Temp TX Pwr Low:

Enable/disable the TX Power Reduction if the Final Amplifier is Overheating.

When this parameter is set to “yes,” the TX output power will automatically be reduced to the “LOW” power selection if the final amplifier is overheating.

Base T.O.T.: *Base Time-Out Timer Time Setting.*

Use the [0] ~ [9] and [•] keys to enter the desired Time-Out Timer (TOT) time (while operating in the “BASE” mode) directly, and press the [ENTER] key. Available values are 0.0 (Min) ~ 60.0 (Min) in 0.5 minute multiples.

Base Guard Time: *Base Guard Time Setting.*

Use the [0] ~ [9] keys to enter the desired Base Guard time (while operating in the “BASE” mode) directly, and press the [ENTER] key. Available values are 0 (Sec) ~ 360 (Sec) in 2 second multiples.

“EDIT COMMON DATA” WINDOW

Repeat T.O.T: *Repeater Time-Out Timer Time Setting.*

Use the [0] ~ [9] and [•] keys to enter the desired Time-Out Timer (TOT) time (while operating in the “**REPEATER**” mode) directly, and press the [ENTER] key. Available values are 0.0 (Min) ~ 60.0 (Min) in a 0.5 second multiples.

Repeat HangOn Time: *Repeater Hang-On Time Setting.*

Use the [0] ~ [9] and [•] keys to enter the desired Hang-On time (while operating in the “**REPEATER**” mode) directly, and press the [ENTER] key. Available values are 0.0 (Sec) ~ 60.0 (Sec) in a 0.5 minute multiples.

Repeat Guard Time: *Repeater Guard Time Setting.*

Use the [0] ~ [9] keys to enter the desired Guard time (while operating in the “**REPEATER**” mode) directly, and press the [ENTER] key. Available values are 0 (Sec) ~ 360 (Sec) in a 2 second multiples.

CW ID: *Enable/disable the CW Identifier feature.*

Press the [SPACE] bar to toggle the repeater’s CW Identifier “on” or “off.”

When this parameter set to “on,” details of the settings may be set via the [F5] key. See page 18 for details.

DTMF ANI/ENI: *Enable/disable the DTMF ANI/ENI feature*

Press the [SPACE] bar to toggle the DTMF ANI/ENI feature selections “RX Enable,” “TX Enable,” “TRX Enable,” or “off.”

When the Identifier is set to “on,” details of the settings may be set via the [F4] key. See page 14 for details.

5-Tone ANI/ENI: *Enable/disable the 5-TONE ANI/ENI feature*

Press the [SPACE] bar to toggle the 5-TONE ANI/ENI feature “RX Enable,” “TX Enable,” “TRX Enable,” or “off.”

When the Identifier is set to “on,” details of the settings may be set via the [F4] key. See page 16 for details.

Note: The DTMF ANI/ENI feature and 5-TONE ANI/ENI feature are exclusive; only one may be active at any time.

“EDIT COMMON DATA” WINDOW

Function Key Selections on the “EDIT COMMON DATA” Window

[F1]: Help

Pressing this key anywhere in the program will invoke the on-line help feature. The help displayed will depend on where the cursor is when [F1] key was pressed. Pressing the [Esc] key returns you to normal program operation. If more help is available, press [F1] or [ENTER] to switch to the next help window.

[F2]: Enviro

Pressing this key displays the “**HARDWARE ENVIRONMENT**” window. These parameters can not be edited in the field. If adjustments to any of these parameters are required, the repeater must be returned to Yaesu.

HARDWARE ENVIRONMENT				
Serial: 12345678		Lowest	Low	High
TX Power Display				Highest
High: 50W	RX Freq: 150.0MHz	160.0MHz	170.0MHz	174.0MHz
Low: 10W	SOL Level: 48(30h)	48(30h)	48(30h)	48(30h)
Squelch W/N Adjust	RX Tune: 44(2Ch)	128(80h)	186(8Ah)	218(DAh)
Value: 0(00h)	TX Freq: 150.0MHz	160.0MHz	170.0MHz	174.0MHz
Squelch Hysteresis	TX Pwr Hi: 195(C9h)	199(C7h)	203(CBh)	206(CEh)
Value: 20(14h)	Lo: 75(4Bh)	75(4Bh)	76(4Ch)	77(4Dh)
NSQ Threshold	Max Dev Hi: 157(9Dh)	156(9Ch)	155(9Bh)	154(9Ah)
Level: 110(6Eh)	Lo: 146(92h)	145(91h)	143(8Fh)	142(8Eh)
	CTC Dev Hi: 163(99h)	161(97h)	154(94h)	153(93h)
	Lo: 153(99h)	150(96h)	154(9Ah)	153(93h)
	DCS Dev Hi: 149(95h)	148(94h)	146(92h)	145(91h)
	Lo: 149(95h)	147(93h)	146(92h)	145(91h)

[F3]: TXP Adj

Pressing this key displays the “**TX POWER ADJUST VALUE**” window, which individually sets the adjusting values for the TX output power (determined from the “TX Pwr” parameter, described previously) for each operating channel. Select the desired operating channel using the [ARROW] key, then use the [0] ~ [9] keys to enter the adjusting values for the TX output power to be you want, then press the [ENTER] key. Available values are -128(80h: maximum reducing) ~ 127(7Fh: maximum increasing). Alternately, the values can be incremented by the [SPACE] bar or decremented by the [BACK SPACE] key.

TX Power Adjust Value			
CH 01:	127(7Fh)	CH 09:	120(78h)
CH 02:	127(7Fh)	CH 10:	125(7Dh)
CH 03:	127(7Fh)	CH 11:	125(7Dh)
CH 04:	120(78h)	CH 12:	127(7Fh)
CH 05:	127(7Fh)	CH 13:	127(7Fh)
CH 06:	125(7Dh)	CH 14:	127(7Fh)
CH 07:	125(7Dh)	CH 15:	127(7Fh)
CH 08:	120(78h)	CH 16:	127(7Fh)

Pressing the [Esc] key closes the “TX POWER ADJUST VALUE” window.

[F4]: DTMF

This function key appears when DTMF ANI/ENI is set to “**Enable**.”

Pressing this key displays the “**DTMF SETTINGS (COMMON DATA)**” window, which allows editing of the DTMF identifier parameters.

DTMF SETTINGS(COMMON DATA)	
Mark Time:	50 ms
Space Time:	50 ms
ANI On:	Both
Delay Time:	300 ms
Delay Time:	1200 ms
TX Time:	2 sec
TX Time:	2 sec
TX Dead Time:	2 sec
Repeat Count:	N
Header Code:	B
Header Code:	B
Code:	1234
Code:	ABCD

Select the item to be you need via the [Up/Down] Arrow keys.

Mark Time programs the “Mark” Weight for the DTMF ANI/ENI feature. Use the [0] ~ [9] keys to enter the desired “Mark” Time directly, then press the [ENTER] key. Available values are 1 (ms) ~ 600 (ms).

Space Time programs the “Space” Weight for the DTMF ANI/ENI feature. Use the [0] ~ [9] keys to enter the desired “Space” Time directly, then press the [ENTER]

“EDIT COMMON DATA” WINDOW

key. Available values are 1 (ms) ~ 600 (ms).

ANI on programs the ANI transmit timing. Press the [SPACE] bar to toggle the ANI transmit timing “TX off,” “TX on,” “Both,” or “None.”

TX off: The ANI transmits when the repeater is unkeyed.

TX on: The ANI transmits when the repeater is keyed.

Both: The ANI transmits when the repeater is keyed and unkeyed.

None: ANI is not transmitted.

ANI Delay Time programs envelope delay for the ANI feature. This setting allows shifting of the entire ANI transmission string in time. Use the [0] ~ [9] keys to enter the desired “Delay” Time directly, then press the [ENTER] key. Available values are 20 (ms) ~ 1275 (ms) in 5 ms multiples.

ENI Delay Time programs envelope delay for the ENI feature. This setting allows shifting of the entire ENI transmission string in time. Use the [0] ~ [9] keys to enter the desired “Delay” Time directly, then press the [ENTER] key. Available values are 20 (ms) ~ 1275 (ms) in 5 ms multiples.

ENI TX Time programs repeater transmit time when the ENI feature is activated. The repeater keeps transmit mode until this period expires when ENI feature is activated. Use the [0] ~ [9] keys to enter the desired “Transmit” Time directly, then press the [ENTER] key. Available values are 1 (sec) ~ 255 (sec), however, this time must be more than (Mark Time + Space Time) x 5 (digits) (sec).

ENI RX Time programs receive time when the ENI feature is activated. The repeater keeps receive mode until this period expires after the ENI code is transmitted. Use the [0] ~ [9] keys to enter the desired “Receive” Time directly, then press the [ENTER] key. Available values are 1 (sec) ~ 255 (sec).

ENI RX Dead Time programs receiver dead time when the ENI feature is activated. Use the [0] ~ [9] keys to enter the desired “Receiver Dead” Time directly, then press the [Enter] key. Available values are 0 (sec) ~ 255 (sec).

ENI Repeat Count programs the number of times for the ENI code transmitting. The repeater repeatedly transmits the ENI code sequence this many times. Use the [0] ~ [9] keys to enter the desired number directly, then press the [ENTER] key. Available values are 1 ~ 255 (times).

ANI Header Code programs the Header Code for the ANI feature. The character to be used is 0 ~ 9, A, B, C, D, E (=DTMF *), or F (=DTMF #).

ENI Header Code programs the Header Code for the ENI feature. The character to be used is 0 ~ 9, A, B, C, D, E (=DTMF *), or F (=DTMF #).

ANI Code programs the ANI code for the ANI feature. The character to be used is 0 ~ 9, A, B, C, D, E (=DTMF *), or F (=DTMF #) (four digits).

ENI Code programs the ENI code for the ANI feature. The character to be used is

“EDIT COMMON DATA” WINDOW

0 ~ 9, A, B, C, D, E (=DTMF *), or F (=DTMF #) (four digits).

Pressing the [Esc] key closes the “DTMF SETTINGS (COMMON DATA)” window.

[F4]: 5-TONE

This function key appears when 5-TONE ANI/ENI is set to “Enable.”

Pressing this key displays the “5-TONE SETTINGS (COMMON DATA)” window, which allows editing of the 5-tone identifier parameters.

5-TONE SETTINGS (COMMON DATA)	
Mark Time:	50 ms
Space Time:	50 ms
ANI Delay Time:	Both
ENI Delay Time:	300 ms
TX Time:	1200 ms
RX Time:	2 sec
ENI Repeat Count:	2
ENI Header Code:	1234
ENI Code:	ABCD
5-Tone Repeat Code:	E

FREQUENCY	
0:	1060Hz
1:	1160Hz
2:	1270Hz
3:	1400Hz
4:	1530Hz
5:	1670Hz
6:	1830Hz
7:	2000Hz
8:	2200Hz
9:	2400Hz
10:	2600Hz
11:	2800Hz
12:	3000Hz
13:	3200Hz
14:	3400Hz
15:	3600Hz
16:	3800Hz
17:	4000Hz
18:	4200Hz
19:	4400Hz
20:	4600Hz
21:	4800Hz
22:	5000Hz
23:	5200Hz
24:	5400Hz
25:	5600Hz
26:	5800Hz
27:	6000Hz
28:	6200Hz
29:	6400Hz
30:	6600Hz
31:	6800Hz
32:	7000Hz
33:	7200Hz
34:	7400Hz
35:	7600Hz
36:	7800Hz
37:	8000Hz
38:	8200Hz
39:	8400Hz
40:	8600Hz
41:	8800Hz
42:	9000Hz
43:	9200Hz
44:	9400Hz
45:	9600Hz
46:	9800Hz
47:	10000Hz
48:	10200Hz
49:	10400Hz
50:	10600Hz
51:	10800Hz
52:	11000Hz
53:	11200Hz
54:	11400Hz
55:	11600Hz
56:	11800Hz
57:	12000Hz
58:	12200Hz
59:	12400Hz
60:	12600Hz
61:	12800Hz
62:	13000Hz
63:	13200Hz
64:	13400Hz
65:	13600Hz
66:	13800Hz
67:	14000Hz
68:	14200Hz
69:	14400Hz
70:	14600Hz
71:	14800Hz
72:	15000Hz
73:	15200Hz
74:	15400Hz
75:	15600Hz
76:	15800Hz
77:	16000Hz
78:	16200Hz
79:	16400Hz
80:	16600Hz
81:	16800Hz
82:	17000Hz
83:	17200Hz
84:	17400Hz
85:	17600Hz
86:	17800Hz
87:	18000Hz
88:	18200Hz
89:	18400Hz
90:	18600Hz
91:	18800Hz
92:	19000Hz
93:	19200Hz
94:	19400Hz
95:	19600Hz
96:	19800Hz
97:	20000Hz
98:	20200Hz
99:	20400Hz
100:	20600Hz
101:	20800Hz
102:	21000Hz
103:	21200Hz
104:	21400Hz
105:	21600Hz
106:	21800Hz
107:	22000Hz
108:	22200Hz
109:	22400Hz
110:	22600Hz
111:	22800Hz
112:	23000Hz
113:	23200Hz
114:	23400Hz
115:	23600Hz
116:	23800Hz
117:	24000Hz
118:	24200Hz
119:	24400Hz
120:	24600Hz
121:	24800Hz
122:	25000Hz
123:	25200Hz
124:	25400Hz
125:	25600Hz
126:	25800Hz
127:	26000Hz
128:	26200Hz
129:	26400Hz
130:	26600Hz
131:	26800Hz
132:	27000Hz
133:	27200Hz
134:	27400Hz
135:	27600Hz
136:	27800Hz
137:	28000Hz
138:	28200Hz
139:	28400Hz
140:	28600Hz
141:	28800Hz
142:	29000Hz
143:	29200Hz
144:	29400Hz
145:	29600Hz
146:	29800Hz
147:	30000Hz
148:	30200Hz
149:	30400Hz
150:	30600Hz
151:	30800Hz
152:	31000Hz
153:	31200Hz
154:	31400Hz
155:	31600Hz
156:	31800Hz
157:	32000Hz
158:	32200Hz
159:	32400Hz
160:	32600Hz
161:	32800Hz
162:	33000Hz
163:	33200Hz
164:	33400Hz
165:	33600Hz
166:	33800Hz
167:	34000Hz
168:	34200Hz
169:	34400Hz
170:	34600Hz
171:	34800Hz
172:	35000Hz
173:	35200Hz
174:	35400Hz
175:	35600Hz
176:	35800Hz
177:	36000Hz
178:	36200Hz
179:	36400Hz
180:	36600Hz
181:	36800Hz
182:	37000Hz
183:	37200Hz
184:	37400Hz
185:	37600Hz
186:	37800Hz
187:	38000Hz
188:	38200Hz
189:	38400Hz
190:	38600Hz
191:	38800Hz
192:	39000Hz
193:	39200Hz
194:	39400Hz
195:	39600Hz
196:	39800Hz
197:	40000Hz
198:	40200Hz
199:	40400Hz
200:	40600Hz
201:	40800Hz
202:	41000Hz
203:	41200Hz
204:	41400Hz
205:	41600Hz
206:	41800Hz
207:	42000Hz
208:	42200Hz
209:	42400Hz
210:	42600Hz
211:	42800Hz
212:	43000Hz
213:	43200Hz
214:	43400Hz
215:	43600Hz
216:	43800Hz
217:	44000Hz
218:	44200Hz
219:	44400Hz
220:	44600Hz
221:	44800Hz
222:	45000Hz
223:	45200Hz
224:	45400Hz
225:	45600Hz
226:	45800Hz
227:	46000Hz
228:	46200Hz
229:	46400Hz
230:	46600Hz
231:	46800Hz
232:	47000Hz
233:	47200Hz
234:	47400Hz
235:	47600Hz
236:	47800Hz
237:	48000Hz
238:	48200Hz
239:	48400Hz
240:	48600Hz
241:	48800Hz
242:	49000Hz
243:	49200Hz
244:	49400Hz
245:	49600Hz
246:	49800Hz
247:	50000Hz
248:	50200Hz
249:	50400Hz
250:	50600Hz
251:	50800Hz
252:	51000Hz
253:	51200Hz
254:	51400Hz
255:	51600Hz
256:	51800Hz
257:	52000Hz
258:	52200Hz
259:	52400Hz
260:	52600Hz
261:	52800Hz
262:	53000Hz
263:	53200Hz
264:	53400Hz
265:	53600Hz
266:	53800Hz
267:	54000Hz
268:	54200Hz
269:	54400Hz
270:	54600Hz
271:	54800Hz
272:	55000Hz
273:	55200Hz
274:	55400Hz
275:	55600Hz
276:	55800Hz
277:	56000Hz
278:	56200Hz
279:	56400Hz
280:	56600Hz
281:	56800Hz
282:	57000Hz
283:	57200Hz
284:	57400Hz
285:	57600Hz
286:	57800Hz
287:	58000Hz
288:	58200Hz
289:	58400Hz
290:	58600Hz
291:	58800Hz
292:	59000Hz
293:	59200Hz
294:	59400Hz
295:	59600Hz
296:	59800Hz
297:	60000Hz
298:	60200Hz
299:	60400Hz
300:	60600Hz
301:	60800Hz
302:	61000Hz
303:	61200Hz
304:	61400Hz
305:	61600Hz
306:	61800Hz
307:	62000Hz
308:	62200Hz
309:	62400Hz
310:	62600Hz
311:	62800Hz
312:	63000Hz
313:	63200Hz
314:	63400Hz
315:	63600Hz
316:	63800Hz
317:	64000Hz
318:	64200Hz
319:	64400Hz
320:	64600Hz
321:	64800Hz
322:	65000Hz
323:	65200Hz
324:	65400Hz
325:	65600Hz
326:	65800Hz
327:	66000Hz
328:	66200Hz
329:	66400Hz
330:	66600Hz
331:	66800Hz
332:	67000Hz
333:	67200Hz
334:	67400Hz
335:	67600Hz
336:	67800Hz
337:	68000Hz
338:	68200Hz
339:	68400Hz
340:	68600Hz
341:	68800Hz
342:	69000Hz
343:	69200Hz
344:	69400Hz
345:	69600Hz
346:	69800Hz
347:	70000Hz
348:	70200Hz
349:	70400Hz
350:	70600Hz
351:	70800Hz
352:	71000Hz
353:	71200Hz
354:	71400Hz
355:	71600Hz
356:	71800Hz
357:	72000Hz
358:	72200Hz
359:	72400Hz
360:	72600Hz
361:	72800Hz
362:	73000Hz
363:	73200Hz
364:	73400Hz
365:	73600Hz
366:	73800Hz
367:	74000Hz
368:	74200Hz
369:	74400Hz
370:	74600Hz
371:	74800Hz
372:	75000Hz
373:	75200Hz
374:	75400Hz
375:	75600Hz
376:	75800Hz
377:	76000Hz
378:	76200Hz
379:	76400Hz
380:	76600Hz
381:	76800Hz
382:	77000Hz
383:	77200Hz
384:	77400Hz
385:	77600Hz
386:	77800Hz
387:	78000Hz
388:	78200Hz
389:	78400Hz
390:	78600Hz
391:	78800Hz
392:	79000Hz
393:	79200Hz
394:	79400Hz
395:	79600Hz
396:	79800Hz
397:	80000Hz
398:	80200Hz
399:	80400Hz
400:	80600Hz
401:	80800Hz
402:	81000Hz
403:	81200Hz
404:	81400Hz
405:	81600Hz
406:	81800Hz
407:	82000Hz
408:	82200Hz
409:	82400Hz
410:	82600Hz
411:	82800Hz
412:	83000Hz
413:	83200Hz
414:	83400Hz
415:	83600Hz
416:	83800Hz
417:	84000Hz
418:	84200Hz
419:	84400Hz

“EDIT COMMON DATA” WINDOW

transmitted. Use the [0] ~ [9] keys to enter the desired “Receive” Time directly, then press the [ENTER] key. Available values are 1 (sec) ~ 255 (sec).

ENI RX Dead Time programs receiver dead time when the ENI feature is activated. Use the [0] ~ [9] keys to enter the desired “Receiver Dead” Time directly, then press the [ENTER] key. Available values are 0 (sec) ~ 255 (sec).

ENI Repeat Count programs the number of times for the ENI code transmitting. The repeater repeatedly transmits the ENI code sequence this many times. Use the [0] ~ [9] keys to enter the desired number directly, then press the [ENTER] key. Available values are 1 ~ 255 (times).

ANI Header Code programs the Header Code for the ANI feature. The character to be used is 0 ~ 9, A, B, C, D, E (=DTMF *), or F (=DTMF #).

ENI Header Code programs the Header Code for the ENI feature. The character to be used is 0 ~ 9, A, B, C, D, E (=DTMF *), or F (=DTMF #).

ANI Code programs the ANI code for the ANI feature. The character to be used is 0 ~ 9, A, B, C, D, E (=DTMF *), or F (=DTMF #) (four digits).

ENI Code programs the ENI code for the ENI feature. The character to be used is 0 ~ 9, A, B, C, D, E (=DTMF *), or F (=DTMF #) (four digits).

5-Tone Repeat Code programs the 5-Tone Repeat Code for the 5-TONE ANI/ENI feature. The character to be used is 0 ~ 9, A, B, C, D, E (=DTMF *), or F (=DTMF #).

Frequency selects/programs 5-Tone Set for the 5-TONE ANI/ENI feature. To change the 5-Tone Set, then press the [TAB] key to switch the cursor to the “FREQUENCY” section, press the [SPACE] bar to select the 5-Tone set among the “ZVEI1,” “ZVEI2,” “ZVEI3,” “PZVEI,” “DZVEI,” “EEA,” “CCIR,” “EIA,” and “User,” and then press the [ENTER] key.

When set to “User,” select the tone you wish to change via the [Up/Down] Arrow keys. Now, enter the desired Tone Frequency directly via the [0] ~ [9] keys, then press the [ENTER] key.

Pressing the [Esc] key closes the “5-TONE SETTINGS (COMMON DATA)” window.

[F5]: CW-ID

This function key appears when CW ID parameter is set to “on”

Pressing this key displays the “CW-ID SETTINGS (COMMON DATA)” window, which sets the status of some CW identifier items (“Dot Time,” “Interval Timer,” “Tone Freq,” and “CW-ID”).

Select the item to edit using the [ARROW] keys, then use the [0] ~ [9] and [.] keys to enter the desired directly, then press the [ENTER] key.



[F8]: CH Edit

Interval Timer programs the Polling Interval for the CW Identifier. Available values are 30 (sec) ~ 4800 (sec).

Tone Freq programs the CW pitch and CW sidetone for the CW Identifier. Available values are 300 (Hz) ~ 3000 (Hz).

CW-ID allows programming of the repeater's callsign. It may contain up to 16 characters.

Pressing the [Esc] key closes the “**CW-ID SETTINGS (COMMON DATA)**” window.

[F6]: AlphaTag

Pressing this key displays the “**ALPHA TAG**” window, which programs the ANI message when an ANI code is received.

Use the **[0] ~ [9]** keys to enter the ANI code and press the **[ENTER]** key, then press the **[RIGHT (ARROW)]** key momentarily to switch the cursor to the right area. Type the message (up to 8 characters) corresponding to the ANI code.

You can program up to 48 ANI messages.

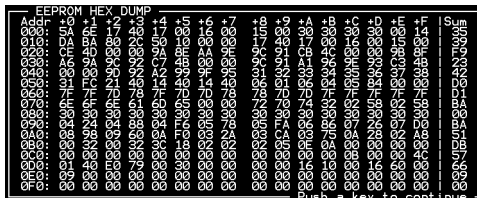
Pressing the [Esc] key closes the “**ALPHA TAG**” window.



[F7]: Data Dump

Pressing this key displays the “**EEPROM HEX DUMP**” window.

Pressing the [Esc] key closes the “EEPROM HEX DUMP” window.



[F8]: CH Edit

Pressing this key returns you to the “**Channel Programming**” Screen.

“**HARDWARE ENVIROMENT**” **WINDOW**

To open the “**HARDWARE ENVIROMENT**” window, just press the [**F2**] (**Enviro**) key while the “**EDIT COMMON DATA**” window is open.

Left Section

The following six parameters provide to the of the repeater.

Serial:

Use the [**0**] ~ [**9**] keys to enter the your repeater’s serial number directly, then press the [**ENTER**] key.

TX Power Display “High”:

Use the [**0**] ~ [**9**] key to enter your repeater’s actual TX “HIGH” power directly, then press the [**ENTER**] key. This parameter is just a memorandum.

TX Power Display “Low”:

Use the [**0**] ~ [**9**] key to enter your repeater’s actual TX “LOW” power directly, then press the [**ENTER**] key. This parameter is just a memorandum.

Squelch W/N Adjust Value:

The revised value of the squelch noise level (the difference between the setting for Wide operation and Narrow operation) appears here.

Squelch Hysteresis Value:

The Squelch Hysteresis value appears here.

NSQ Threshold Level:

The front panel’s **SQL** knob Squelch Threshold value appears here.

“**HARDWARE ENVIROMENT**” **Window**

HARDWARE ENVIRONMENT		Lowest	Low	High	Highest
Serial:	12345678				
TX Power Display		RX Freq:	150.0MHz	160.0MHz	170.0MHz
High: 50W		SQL Level:	48(30h)	48(30h)	48(30h)
Low: 10W		RX Tune:	44(2Ch)	128(80h)	186(BAh)
					218(DAh)
Squelch W/N Adjust		TX Freq:	150.0MHz	160.0MHz	170.0MHz
Value: 0(00h)		TX Pwr Hi:	195(C3h)	199(C7h)	203(CBh)
		Lo:	75(4Bh)	75(4Bh)	76(4Ch)
		Max Dev	157(9Dh)	156(9Ch)	155(9Bh)
Squelch Hysteresis		N:	146(92h)	145(91h)	143(8Fh)
Value: 20(14h)		CTC Dev	162(A2h)	161(A1h)	166(A6h)
		N:	158(9Fh)	158(9Fh)	154(9Ah)
NSQ Threshold		DCS Dev	158(9Fh)	158(9Fh)	156(9Ch)
Level: 110(6Eh)		N:	149(95h)	147(93h)	146(92h)
					145(91h)

“HARDWARE ENVIRONMENT” WINDOW

Right Section

The following 12 parameters individually provide to the four partition (“*Lowest*,” “*Low*,” “*High*,” and “*Highest*”) of the repeater’s bandwidth.

RX Freq.: *Displays test frequencies.*

You can change these test frequencies using the [0] ~ [9], and [•] keys, or enter the frequency directly using the [0] ~ [9] keys.

SQL Level: *Displays the Squelch level when the repeater transmitter is activated.*

You can adjust this level using the [SPACE] bar (increment) or [BACK SPACE] key, or enter the value directly using the [0] ~ [9] keys.

RX Tune: *Displays the tuning voltage for the IF stage alignment.*

You can adjust this setting using the [SPACE] bar (increment) or [BACK SPACE] key, or enter the value directly using the [0] ~ [9] keys.

TX Freq.: *Displays test frequencies.*

You can change these test frequencies using the [0] ~ [9], and [•] keys, or enter the frequency directly using the [0] ~ [9] keys.

TX Pwr Hi: *Displays the TX “HIGH” power output level.*

You can change this level using the [SPACE] bar (increment) or [BACK SPACE] key, or enter the value directly using the [0] ~ [9] keys.

TX Pwr Lo: *Displays the TX “LOW” power output level.*

You can change this level using the [SPACE] bar (increment) or [BACK SPACE] key, or enter the value directly using the [0] ~ [9] keys.

Max Dev W: *Displays the Maximum deviation level while in WIDE FM operation.*

You can change this level using the [SPACE] bar (increment) or [BACK SPACE] key, or enter the value directly using the [0] ~ [9] keys.

Max Dev N: *Displays the Maximum deviation level while in NARROW FM operation.*

You can change this level using the [SPACE] bar (increment) or [BACK SPACE] key, or enter the value directly using the [0] ~ [9] keys.

CTC Dev W: *Displays the Maximum deviation level for the CTCSS tone encoder while in WIDE FM operation.*

You can change this level using the [SPACE] bar (increment) or [BACK SPACE] key, or enter the value directly using the [0] ~ [9] keys.

“HARDWARE ENVIRONMENT” WINDOW

CTC Dev N: *Displays the Maximum deviation level for the CTCSS tone encoder while in NARROW FM operation.*

You can change this level using the [**SPACE**] bar (increment) or [**BACK SPACE**] key, or enter the value directly using the [**0**] ~ [**9**] keys.

DCS Dev W: *Displays the Maximum deviation level for the DCS encoder while in WIDE FM operation.*

You can change this level using the [**SPACE**] bar (increment) or [**BACK SPACE**] key, or enter the value directly using the [**0**] ~ [**9**] keys.

DCS Dev N: *Displays the Maximum deviation level for the DCS encoder while in NARROW FM operation.*

You can change this level using the [**SPACE**] bar (increment) or [**BACK SPACE**] key, or enter the value directly using the [**0**] ~ [**9**] keys.



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