



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.

VERTEX STANDARD CO., LTD.

4-8-8 Nakameguro, Meguro-Ku, Tokyo 153-8644, Japan

VERTEX STANDARD

US Headquarters

17210 Edwards Rd., Cerritos, CA 90703, U.S.A.

International Division

8350 N.W. 52nd Terrace, Suite 201, Miami, FL 33166, U.S.A.

YAESU EUROPE B.V.

P.O. Box 75525, 1118 ZN Schiphol, The Netherlands

YAESU UK LTD.

Unit 12, Sun Valley Business Park, Winnall Close
Winchester, Hampshire, SO23 0LB, U.K.

VERTEX STANDARD HK LTD.

Unit 5, 20/F., Seaview Centre, 139-141 Hoi Bun Road,
Kwun Tong, Kowloon, Hong Kong

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.

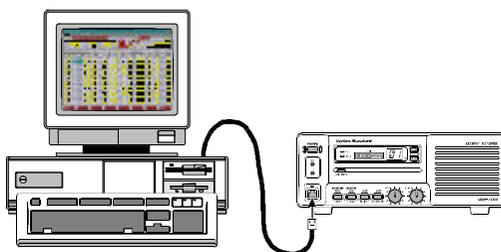
Then it will be safe to restart the computer; turning off the equipment during interconnection avoids the potential for damage to the electronics caused by voltage spikes.

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 screenshot shows a DOS-style window titled "MS-DOS - CE27". The main area is divided into two sections: "EEPROM DATA EDITOR <CE-27>" and "KEY HELP".

EEPROM DATA EDITOR <CE-27>

Edit: noname.rpt Band: VHF 0..9 Input Frequency
 Serial No.: 12345678 COM Port: COM1 [.] Enter 100kHz Digit...

Ch	Rx Freq.	Decoders	Clk Sft	NSQ	Court Blip	Rev Bst	DCS Typ	DDec Type	Multi Tone	CHTD ANI/ENI
01	161.00000	88.5 off	W no	Prpgrm	off	off	A	Fixed	no	off
02	161.05000	100.0 off	W no	Prpgrm	off	off	A	Fixed	no	off
03	161.01000	off 023	W no	Prpgrm	on	off	A	Fixed	no	off
04	161.01500	off 155	W yes	Prpgrm	off	off	A	Fixed	no	off
05	161.02000	off 155	W no	Prpgrm	off	off	B	Fixed	no	off
06	161.02500	88.5 on	W no	Prpgrm	off	off	A	Fixed	no	off
07	161.03000	114.0 on	W no	Prpgrm	on	on	A	Fixed	no	off
08	161.03500	off 501	W no	Prpgrm	off	off	A	Fixed	no	off
09	161.04000	off 506	W no	Prpgrm	off	off	A	Fixed	no	off
10	161.04500	off 506	W no	Prpgrm	on	on	A	Fixed	no	off
11	161.05000	100.0 on	W no	Prpgrm	on	on	A	Fixed	no	off
12	161.05500	88.5 on	W no	Prpgrm	off	off	A	Fixed	no	off
13	161.06000	103.5 on	W no	Prpgrm	off	off	A	Fixed	no	off
14	161.06500	off 506	W yes	Prpgrm	off	off	A	Fixed	no	off
15	161.07000	79.7 off	W no	Prpgrm	on	off	A	Fixed	no	off
16	161.07500	off off	W no	User	127	off	A	Fixed	no	off

KEY HELP

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

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)

Ch	Action Mode	Tx Freq.	Encoders CTCSS	DCS	Base TOT	Base Guard	LOUT	TX Pwr	TOT Mute	Rpt10T Use	Rpt10T Beep	RPT HI	RPT GI
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	B1LO	Lo	off	no	no	no	no
04	Duplex	161.65000	off	155	no	no	B1LO	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	051	no	no	off	Hi	off	no	no	no	no
09	Duplex	161.90000	off	006	no	no	off	Hi	off	no	no	no	no
10	Duplex	161.95000	off	006	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
67.0	57	82	4
69.7	59	82	4
71.9	59	82	4
74.4	59	82	4
77.0	59	82	4
79.7	59	82	4
82.5	59	82	4
85.4	59	82	4
88.5	59	82	4
91.5	59	82	4
94.4	59	82	4
97.5	59	82	4
100.0	59	82	4
103.5	59	82	4
107.0	59	82	4
110.7	59	82	4
114.5	59	82	4
118.5	59	82	4
122.7	59	82	4
127.0	59	82	4
131.5	59	82	4
136.3	59	82	4
141.3	59	82	4
146.5	59	82	4
151.9	59	82	4
157.5	59	82	4
163.3	59	82	4
169.3	59	82	4
175.5	59	82	4
181.9	59	82	4
188.5	59	82	4
195.3	59	82	4
202.5	59	82	4
209.7	59	82	4
217.5	59	82	4
225.7	59	82	4
234.0	59	82	4
242.7	59	82	4
251.7	59	82	4
261.0	59	82	4
270.7	59	82	4
280.7	59	82	4
291.0	59	82	4
301.5	59	82	4
312.3	59	82	4
323.3	59	82	4
334.5	59	82	4
346.0	59	82	4
357.7	59	82	4
369.7	59	82	4
381.9	59	82	4
394.3	59	82	4
406.9	59	82	4
419.7	59	82	4
432.7	59	82	4
445.9	59	82	4
459.3	59	82	4
472.9	59	82	4
486.7	59	82	4
500.7	59	82	4
514.9	59	82	4
529.3	59	82	4
543.9	59	82	4
558.7	59	82	4
573.7	59	82	4
588.9	59	82	4
604.3	59	82	4
619.9	59	82	4
635.7	59	82	4
651.7	59	82	4
667.9	59	82	4
684.3	59	82	4
700.9	59	82	4
717.7	59	82	4
734.7	59	82	4
751.9	59	82	4
769.3	59	82	4
786.9	59	82	4
804.7	59	82	4
822.7	59	82	4
840.9	59	82	4
859.3	59	82	4
877.9	59	82	4
896.7	59	82	4
915.7	59	82	4
934.9	59	82	4
954.3	59	82	4
973.9	59	82	4
993.7	59	82	4

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
002	026	122	071	072	073	074
005	026	122	071	072	073	074
011	026	122	071	072	073	074
014	026	122	071	072	073	074
019	026	122	071	072	073	074
024	026	122	071	072	073	074
029	026	122	071	072	073	074
034	026	122	071	072	073	074
039	026	122	071	072	073	074
044	026	122	071	072	073	074
049	026	122	071	072	073	074
054	026	122	071	072	073	074
059	026	122	071	072	073	074
064	026	122	071	072	073	074
069	026	122	071	072	073	074
074	026	122	071	072	073	074
079	026	122	071	072	073	074
084	026	122	071	072	073	074
089	026	122	071	072	073	074
094	026	122	071	072	073	074
099	026	122	071	072	073	074
104	026	122	071	072	073	074
109	026	122	071	072	073	074
114	026	122	071	072	073	074
119	026	122	071	072	073	074
124	026	122	071	072	073	074
129	026	122	071	072	073	074
134	026	122	071	072	073	074
139	026	122	071	072	073	074
144	026	122	071	072	073	074
149	026	122	071	072	073	074
154	026	122	071	072	073	074
159	026	122	071	072	073	074
164	026	122	071	072	073	074
169	026	122	071	072	073	074
174	026	122	071	072	073	074
179	026	122	071	072	073	074
184	026	122	071	072	073	074
189	026	122	071	072	073	074
194	026	122	071	072	073	074
199	026	122	071	072	073	074
204	026	122	071	072	073	074
209	026	122	071	072	073	074
214	026	122	071	072	073	074
219	026	122	071	072	073	074
224	026	122	071	072	073	074
229	026	122	071	072	073	074
234	026	122	071	072	073	074
239	026	122	071	072	073	074
244	026	122	071	072	073	074
249	026	122	071	072	073	074
254	026	122	071	072	073	074
259	026	122	071	072	073	074
264	026	122	071	072	073	074
269	026	122	071	072	073	074
274	026	122	071	072	073	074
279	026	122	071	072	073	074
284	026	122	071	072	073	074
289	026	122	071	072	073	074
294	026	122	071	072	073	074
299	026	122	071	072	073	074
304	026	122	071	072	073	074
309	026	122	071	072	073	074
314	026	122	071	072	073	074
319	026	122	071	072	073	074
324	026	122	071	072	073	074
329	026	122	071	072	073	074
334	026	122	071	072	073	074
339	026	122	071	072	073	074
344	026	122	071	072	073	074
349	026	122	071	072	073	074
354	026	122	071	072	073	074
359	026	122	071	072	073	074
364	026	122	071	072	073	074
369	026	122	071	072	073	074
374	026	122	071	072	073	074
379	026	122	071	072	073	074
384	026	122	071	072	073	074
389	026	122	071	072	073	074
394	026	122	071	072	073	074
399	026	122	071	072	073	074
404	026	122	071	072	073	074
409	026	122	071	072	073	074
414	026	122	071	072	073	074
419	026	122	071	072	073	074
424	026	122	071	072	073	074
429	026	122	071	072	073	074
434	026	122	071	072	073	074
439	026	122	071	072	073	074
444	026	122	071	072	073	074
449	026	122	071	072	073	074
454	026	122	071	072	073	074
459	026	122	071	072	073	074
464	026	122	071	072	073	074
469	026	122	071	072	073	074
474	026	122	071	072	073	074
479	026	122	071	072	073	074
484	026	122	071	072	073	074
489	026	122	071	072	073	074
494	026	122	071	072	073	074
499	026	122	071	072	073	074
504	026	122	071	072	073	074
509	026	122	071	072	073	074
514	026	122	071	072	073	074
519	026	122	071	072	073	074
524	026	122	071	072	073	074
529	026	122	071	072	073	074
534	026	122	071	072	073	074
539	026	122	071	072	073	074
544	026	122	071	072	073	074
549	026	122	071	072	073	074
554	026	122	071	072	073	074
559	026	122	071	072	073	074
564	026	122	071	072	073	074
569	026	122	071	072	073	074
574	026	122	071	072	073	074
579	026	122	071	072	073	074
584	026	122	071	072	073	074
589	026	122	071	072	073	074
594	026	122	071	072	073	074
599	026	122	071	072	073	074
604	026	122	071	072	073	074
609	026	122	071	072	073	074
614	026	122	071	072	073	074
619	026	122	071	072	073	074
624	026	122	071	072	073	074
629	026	122	071	072	073	074
634	026	122	071	072	073	074
639	026	122	071	072	073	074
644	026	122	071	072	073	074
649	026	122	071	072	073	074
654	026	122	071	072	073	074
659	026	122	071	072	073	074
664	026	122	071	072	073	074
669	026	122	071	072	073	074
674	026	122	071	072	073	074
679	026	122	071	072	073	074
684	026	122	071	072	073	

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

		Decoders		Encoders	
		CTCSS	DCS	CTCSS	DCS
Tone	01	88	---	88	---
Tone	02	100	006	100	006
Tone	03	---	023	---	023
Tone	04	114	---	88	001
Tone	05	203	036	88	---
Tone	06	---	155	---	155
Tone	07	---	561	---	023
Tone	08	---	506	---	506

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	Tone	Select
67	69	71	82
77	79	74	85
86	91	77	88
106	103	107	110
114	113	114	117
131	130	131	134
151	150	151	154
172	171	172	175
192	191	192	195
212	211	212	215
232	231	232	235
252	251	252	255
272	271	272	275
292	291	292	295
312	311	312	315
332	331	332	335
352	351	352	355
372	371	372	375
392	391	392	395
412	411	412	415
432	431	432	435
452	451	452	455
472	471	472	475
492	491	492	495
512	511	512	515
532	531	532	535
552	551	552	555
572	571	572	575
592	591	592	595
612	611	612	615
632	631	632	635
652	651	652	655
672	671	672	675
692	691	692	695
712	711	712	715
732	731	732	735
752	751	752	755
772	771	772	775
792	791	792	795
812	811	812	815
832	831	832	835
852	851	852	855
872	871	872	875
892	891	892	895
912	911	912	915
932	931	932	935
952	951	952	955
972	971	972	975
992	991	992	995

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	Code	Select
023	026	030	036
051	054	031	037
061	064	032	038
114	114	033	039
143	143	034	040
173	173	035	041
203	203	036	042
233	233	037	043
263	263	038	044
293	293	039	045
323	323	040	046
353	353	041	047
383	383	042	048
413	413	043	049
443	443	044	050
473	473	045	051
503	503	046	052
533	533	047	053
563	563	048	054
593	593	049	055
623	623	050	056
653	653	051	057
683	683	052	058
713	713	053	059
743	743	054	060
773	773	055	061
803	803	056	062
833	833	057	063
863	863	058	064
893	893	059	065
923	923	060	066
953	953	061	067
983	983	062	068
013	013	063	069
043	043	064	070
073	073	065	071
103	103	066	072
133	133	067	073
163	163	068	074
193	193	069	075
223	223	070	076
253	253	071	077
283	283	072	078
313	313	073	079
343	343	074	080
373	373	075	081
403	403	076	082
433	433	077	083
463	463	078	084
493	493	079	085
523	523	080	086
553	553	081	087
583	583	082	088
613	613	083	089
643	643	084	090
673	673	085	091
703	703	086	092
733	733	087	093
763	763	088	094
793	793	089	095
823	823	090	096
853	853	091	097
883	883	092	098
913	913	093	099
943	943	094	100
973	973	095	101
003	003	096	102
033	033	097	103
063	063	098	104
093	093	099	105
123	123	100	106
153	153	101	107
183	183	102	108
213	213	103	109
243	243	104	110
273	273	105	111
303	303	106	112
333	333	107	113
363	363	108	114
393	393	109	115
423	423	110	116
453	453	111	117
483	483	112	118
513	513	113	119
543	543	114	120
573	573	115	121
603	603	116	122
633	633	117	123
663	663	118	124
693	693	119	125
723	723	120	126
753	753	121	127
783	783	122	128
813	813	123	129
843	843	124	130
873	873	125	131
903	903	126	132
933	933	127	133
963	963	128	134
993	993	129	135
023	023	130	136
053	053	131	137
083	083	132	138
113	113	133	139
143	143	134	140
173	173	135	141
203	203	136	142
233	233	137	143
263	263	138	144
293	293	139	145
323	323	140	146
353	353	141	147
383	383	142	148
413	413	143	149
443	443	144	150
473	473	145	151
503	503	146	152
533	533	147	153
563	563	148	154
593	593	149	155
623	623	150	156
653	653	151	157
683	683	152	158
713	713	153	159
743	743	154	160
773	773	155	161
803	803	156	162
833	833	157	163
863	863	158	164
893	893	159	165
923	923	160	166
953	953	161	167
983	983	162	168
013	013	163	169
043	043	164	170
073	073	165	171
103	103	166	172
133	133	167	173
163	163	168	174
193	193	169	175
223	223	170	176
253	253	171	177
283	283	172	178
313	313	173	179
343	343	174	180
373	373	175	181
403	403	176	182
433	433	177	183
463	463	178	184
493	493	179	185
523	523	180	186
553	553	181	187
583	583	182	188
613	613	183	189
643	643	184	190
673	673	185	191
703	703	186	192
733	733	187	193
763	763	188	194
793	793	189	195
823	823	190	196
853	853	191	197
883	883	192	198
913	913	193	199
943	943	194	200
973	973	195	201
003	003	196	202
033	033	197	203
063	063	198	204
093	093	199	205
123	123	200	206
153	153	201	207
183	183	202	208
213	213	203	209
243	243	204	210
273	273	205	211
303	303	206	212
333	333	207	213
363	363	208	214
393	393	209	215
423	423	210	216
453	453	211	217
483	483	212	218
513	513	213	219
543	543	214	220
573	573	215	221
603	603	216	222
633	633	217	223
663	663	218	224
693	693	219	225
723	723	220	226
753	753	221	227
783	783	222	228
813	813	223	229
843	843	224	230
873	873	225	231
903	903	226	232
933	933	227	233
963	963	228	234
993	993	229	235
023	023	230	236
053	053	231	237
083	083	232	238
113	113	233	239
143	143	234	240
173	173	235	241
203	203	236	242
233	233	237	243
263	263	238	244
293	293	239	245
323	323	240	246
353	353	241	247
383	383	242	248
413	413	243	249
443	443	244	250
473	473	245	251
503	503	246	252
533	533	247	253
563	563	248	254
593	593	249	255
623	623	250	256
653	653	251	257
683	683	252	258
713	713	253	259
743	743	254	260
773	773	255	261
803	803	256	262
833	833	257	263
863	863	258	264
893	893	259	265
923	923	260	266
953	953	261	267
983	983	262	268
013	013	263	269
043	043	264	270
073	073	265	271
103	103	266	272
133	133	267	273
163	163	268	274
193	193	269	275
223	223	270	276
253	253	271	277
283	283	272	278
313	313	273	279
343	343	274	280
373	373	275	281
403	403	276	282
433	433	277	283
463	463	278	284
493	493	279	285
523	523	280	286
553	553	281	287
583	583	282	288

THE CHANNEL PROGRAMMING SCREEN

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 RX Reference: 14.40 MHz
Beep Enable: yes TX Reference: 14.40 MHz
Monitor Enables: 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 I.O.T: 3.0 Min
NIC Mon: Enable: yes Base Guard Time: 3.0 Sec
Fan Alert Enable: yes Repeat I.O.I: 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 CH ID: 00
COM Port: COM1 DTMF ANI/ENI: 00
S-Tone ANI/ENI: off
```

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
```

THE CHANNEL PROGRAMMING SCREEN

[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.



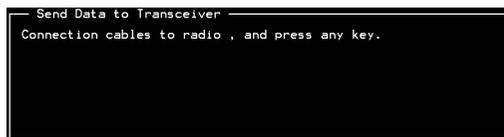
[F5]: Read ROM

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**.”

Beep 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
Beep 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:	30.2 Sec
Fan Alert Enable:	yes	Repeat T.O.T:	30.0 Min
HI-Temp Alert:	yes	Repeat HangOn Time:	2.0 Sec
Hang On Audio:	Quiet	Repeat Guard Time:	1.0 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		Lowest	Low	High	Highest
Serial:	12345678				
Tx Power Display	50W				
High:	50W				
Low:	10W				
Squelch W/N Adjust Value:	0(00h)				
Squelch Hysteresis Value:	20(14h)				
NSQ Threshold Level:	110(6Eh)				
RX Freq:	150.0MHz	160.0MHz	170.0MHz	174.0MHz	
SQ Level:	48(30h)	48(30h)	48(30h)	48(30h)	
RX Tune:	44(2Ch)	128(80h)	186(BAh)	218(DAh)	
Tx Freq:	150.0MHz	160.0MHz	170.0MHz	174.0MHz	
Tx Pwr Hi:	195(C9h)	199(C7h)	203(C5h)	206(C6h)	
Lo:	75(4Bh)	75(4Bh)	75(4Bh)	77(4Dh)	
Max Dev Hi:	157(9Dh)	156(9Ch)	155(9Bh)	154(9Ah)	
Lo:	146(92h)	145(91h)	143(8Fh)	142(8Eh)	
CTC Dev Hi:	163(A7h)	161(A5h)	160(A4h)	170(AAh)	
Lo:	159(99h)	150(96h)	154(9Ah)	158(9Eh)	
DCS Dev Hi:	139(8Fh)	138(8Eh)	136(8Ch)	135(8Bh)	
Lo:	143(95h)	147(95h)	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:	127(7Fh)	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:	300 ms
ANI On:	Both
ANI Delay Time:	1200 ms
ENI Delay Time:	2 sec
ENI RX Time:	2 sec
ENI RX Desc Time:	2 sec
ENI Repeat Count:	1
ENI Header Code:	A
ENI Header Code:	B
ENI Code:	1234
ENI 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 ANI 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

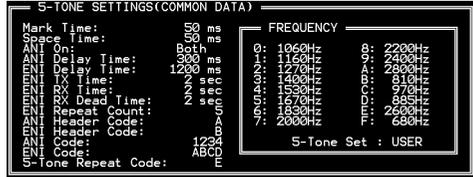
0 ~ 9, A, B, C, D, E (=DTMF *), or F (=DTMF #) (four digits).

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.



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

Mark Time programs the “Mark” Weight for the 5-TONE 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 5-TONE ANI/ENI feature. Use the [0] ~ [9] keys to enter the desired “Space” Time directly, then press the [ENTER] 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 when after the ENI code is

“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.



“**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	174.0MHz
High:	50W	SQL Level: 48(30h)	48(30h)	48(30h)	48(30h)
Low:	10W	RX Tune: 44(2Ch)	128(80h)	186(BAh)	218(DAh)
Squelch W/N Adjust Value:	0(00h)	TX Freq: 150.0MHz	160.0MHz	170.0MHz	174.0MHz
		TX Pwr Hi: 195(C3h)	199(C7h)	203(CBh)	206(CEh)
		Lo: 75(4Bh)	75(4Bh)	76(4Ch)	77(4Dh)
		Max Dev W: 157(9Dh)	156(9Ch)	155(9Bh)	154(9Ah)
Squelch Hysteresis Value:	20(14h)	N: 146(92h)	145(91h)	143(8Fh)	142(8Eh)
		CTC Dev W: 162(A2h)	161(A1h)	166(A6h)	170(AAh)
		N: 153(99h)	150(96h)	154(9Ah)	158(9Eh)
NSQ Threshold Level:	110(6Eh)	DCS Dev W: 159(9Fh)	158(9Eh)	156(9Ch)	156(9Ch)
		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.



Copyright 2001
VERTEX STANDARD CO., LTD.
All rights reserved.

No portion of this manual
may be reproduced
without the permission of
VERTEX STANDARD CO., LTD.

Printed in Japan



Zu beziehen über :

www.oppermann-telekom.de

Jan Oppermann
Hauptstraße 34a
D-06507 Friedrichsbrunn/Harz

Telefon :
039487-552

Fax :
039487-236