

## Operating Your Pro-2020

Turn on your Pro-2020 by rotating [VOLUME] clockwise. (When first turned on, your Pro-2020 may start scanning).

Rotate [SQUELCH] fully counterclockwise. You'll hear a rushing noise from the speaker. Slowly rotate [SQUELCH] clockwise until the noise just stops. You're now ready to start entering frequencies.

## Programming Frequencies

Before programming frequencies, make sure your Pro-2020 is turned on and the SQUELCH is adjusted.

Suppose you want to program Channel 1 to receive 162.55 MHz. Here's how you would do it:

1. Press [MANUAL] and select channel 1. You can do this in two ways: press [MANUAL] continuously until the Display indicates Channel 1 or by pressing [1] [MANUAL].
2. Press [PROGRAM] to enter the programming mode.
3. Enter the desired frequency. In this case, press the [1] [6] [2] [.] [5] [5] keys. Check the display to make sure the frequency it shows is the one you meant to program. If it is, press the [ENTER] key.
4. To add more frequencies, just press [PROGRAM] to advance to the next channel and follow the steps above.
5. If you ever want to change the frequency entered for a specific channel, just enter the new frequency "over" the old frequency using steps 1, 2, and 3.

Make a mistake while entering the frequency? Just press [CLEAR], enter the correct frequency and press [ENTER]. If you're entering a new frequency in place of an old one, the old frequency won't be "erased" when you press [CLEAR]. It will remain stored on that channel until you correctly enter a new frequency and press [ENTER].

You'll hear a "peep" sound as you press the various keys. This lets you know the key has been properly "entered" into your Pro-2020.

## Using the Scanning Function

Your Pro-2020 will automatically scan all the channels you've programmed and stop whenever it finds a signal. To scan channels, just press the [SCAN] key.

To stop scanning, just press [MANUAL] and you can select specific channels you want to listen to.

**IMPORTANT!** Your Pro-2020 won't scan unless SQUELCH is set to the point where no sound is heard if a signal isn't being received.

## Delay Function

When your Pro-2020 is scanning, it will stop whenever it finds a signal on

a channel. As soon as the signal ends, the scanning function will resume. Most communications heard will be two-way. To make sure you don't miss any replies, press [DELAY]. This will cause your Pro-2020 to stay on a channel for two seconds after the end of a transmission, giving you time to hear any reply. To release the Delay function, just press [DELAY] again. The Delay indicator will show on the display when the Delay function is used.

#### Lockout Function

You may want your Pro-2020 to "skip over" certain frequencies while it's scanning (such as continuously transmitted weather broadcasts). To "lock out" such channels, follow these steps:

1. Press [MANUAL] to stop scanning. Continue to press [MANUAL] to advance to the channel you want to lock out.
2. When you reach the channel, press [LOCK OUT]. The display will show [o] to indicate this channel will be skipped over during scanning.
3. To release the lockout, press [MANUAL] to stop scanning. Advance to the channel that is locked out and press [LOCK OUT] once again. [o] will disappear from the display.

If you use the lockout function on all channels, scanning will be impossible - you'll only be able to change channels using [MANUAL].

#### Speed Selection

Your Pro-2020 will normally scan channels at a rate of four channels per second. If you press [SPEED], channels will be scanned at a rate of nine per second. Press [SPEED] again to return to a rate of four channels per second.

#### Priority Function

You might want to scan other channels yet not miss a call on a channel of particular interest to you (police, fire, ambulance, etc.). The Priority function will let you scan other channels - but if a call is received on the Priority channel, your Pro-2020 will automatically switch to the Priority channel!

1. Only Channel 1 can be used as Priority Channel: Key in the desired Priority frequency into Channel 1.
2. Priority function works only when the unit is in Scan or Manual mode.
3. Press [PRIORITY] to start Priority function. A [P] will appear on the display.
4. Press [MANUAL] or [SCAN] to listen to other channels. Your Pro-2020 will check the Priority channel and switch to it if a signal is received on it.
5. To cancel Priority function, press [PRIORITY] again. the [P] will disappear from the display.

#### SEARCHING WITH YOUR PRO-2020

One great feature of your Pro-2020 is its ability to "search" for frequencies being used. This means you can hear all the action on the airwaves in your area! To use this great feature, just follow these steps:

1. Press [PROGRAM] key.
2. Press [LIMIT] key. Enter the lower limit of frequency range to be searched (such as 45.00 MHz). Press [ENTER].
3. Press [LIMIT] key again. Enter the upper limit of frequency range to be searched (such as 46.00 MHz). Press [ENTER].
4. Press either [up arrow] or [down arrow] to start Search. [Down arrow] will start search from the highest frequency and go down. [Up arrow] will start from the lowest frequency and go up.
5. You can control the speed of the search by using the [SPEED] key to accelerate or to slow down the search.
6. Search will stop when a frequency is found with a signal. To restart search, press [up arrow] or [down arrow].

In Program Mode, search range will be displayed each time [LIMIT] is pressed. It is impossible to change the lower frequency only: to change lower frequency you must change higher frequency first. The higher frequency can be changed any time.

#### Storing Frequencies

If you want to enter some of the frequencies found during search, do this:

1. Press [MONITOR] when your Pro-2020 finds a frequency you want to store.
2. Use [MANUAL] key to select a channel to enter the frequency your Pro - 2020 found. The display will show the frequency currently stored on the channel, but don't worry - the old frequency will be erased when you start to enter the new one.
3. Press [PROGRAM].
4. Press [MONITOR] again. The new frequency found during the search will be displayed.
5. Press [ENTER] to put the new frequency into the channel in place of the old frequency.
6. Press either [up arrow] or [down arrow] to resume the search. To return to manual or program operation, press [MANUAL] or [PROGRAM]. To resume the search from one of the limit frequencies, press [LIMIT] and then [up arrow] or [down arrow].

#### Error Indications

Sometimes when you try to enter a frequency for a channel or as a search range limit, you may find an ----- on the display. This means the frequency is in error and you won't be able to enter it into your Pro -2020.

Such frequency errors usually mean you've entered a frequency outside the ranges your Pro-2020 operates on (such as 225.00 MHz) or you've put the decimal point in the wrong place (14.682 MHz instead of 146.82 MHz). Check carefully to find your mistake and then press [CLEAR]. You can now enter the correct frequency.

(wr 07/31/98)

To order parts call 1-800-843-7422 or visit your local RadioShack store.

Reference #	Cat.No.	Description	NP Part #
	11319340	REPLACED BY DX -0162	1N60
	11319373		1N60P
	11319548		1S1588
Q6 Q7	10511251	XSTR 2SC2464 CHIP	1TD0022
	11331196	XSTR 2SC1117 BI-POLAR NPN	2SC1117
	11332210	XSTR 2SC2347 BI-POLAR NPN	2SC2347
	11344504	XSTR 3SK77 DUAL GATE N-CH	3SK77
	10538270	5 SEGMENT	A0123
31		ANTENNA, TELESCOPIC	A0307
		FOR SUB-SEE A-0123	A0307
	10540748	ANTENNA, TELESCOPIC	A0530
		UNIT DISCONTINUED 1986	AA0000X
TC101-107	10555514	CAP TRIMMER 10P	C0877
TC1		CAP TRIMMER 20P	C0965
CF101		USE CB0605	C1044
		REPLACED BY CB0605	C1044
L101	10563096	COIL, RADIO FREQUENCY	CA3488
T103		COIL OSC LO	CA4914
T101 T102		COIL RF	CA5261
T104	10567519	COIL, 10.7MHZ	CA7246
T105	10567527	COIL IFT 455MHZ	CA7247
T107	10567634	COIL, IFT 455 KHZ (4202)	CA7844
T106	10567691	COIL, IFT 455KHZ M352 -203N	CA8183
CF101	10570216	FILTER, CER 455KHZ	CB0605
	10571909	PKG OF 5	CC102KJBMB
	10571966	.01UF +-5 50V MYL	CC103JJBM
	10572212	.1UF +-5 50V MYL	CC104JJBM
		.1UF +-5 63V MYL	CC104JJDM
	10572345	CAP ELECT ALP 50V 1UF +-1	CC105KJBA
	10572451	10UF +-20 16V ALP	CC106MDCA
	10573111	2200PF +-5 50V MYL	CC222JJBM
		2200PF +-10 50V MYL	CC222KJBM
	10573657	220UF +-20 10V ALP	CC227MCBA
	10574630	CAP MYL 50V 4700PF +-10	CC472KJBM
		PKG OF 5	CC473JJBMB
	10575017	4.7UF +-20 35V ALP	CC475MGBA
	11581154	470UF +-20 16V ALP	CC477MDCA
		PKG OF 5	CC477MDCAB
X101	10589497	CRYSTAL, 10.245MHZ	CX0132
	10594109	RESONATOR CERAMIC 400 MHZ	CX0785
XF101	10594737	CRYSTAL, FILTER 10.7MHZ	CX0920
28		DOOR BATTERY	DB0322
D101-104 D106 D108		DIODE FC54M	DX0548
D110			DX0548
D126	10625275	DIODE HC5C-2 4.7V 1/2W	DX1357
D105 D107	10625556	DIODE 1SS85	DX1462
D118 D120 D122-125	10627297	DIODE 1K60 RLF-SL	DX2013
	10627297	USED AFTER DC 1A3	DX2013
		USE MX4760	HA17805P
		USE LM340T8	HA17808P
9	10654622	BUSHING, FOR TELEPHONE WIR	HB0705
3		GUIDE ANTENNA	HB6920
24	10694008	SCREW, MOUNTING BRACKET	HD1673
24		USE HD1673	HD1797

		REPLACED BY HD1673	HD1797
15	10727089	JACK, 2P PHONE 3.5MM	J0960
14	10728640	JACK ANTENNA	J1169
	10729382	JACK RCA	J1297
	10731966	TERMINAL PRESSURE	J4634
		SOCKET 42P IC	J7028
	10740520	STORE STOCK UNDER 270 -324	JE0213
13		KEYBOARD	K4540
		WITH CONNECTOR AND PCB	K4540
26		KNOB VOLUME/SQUELCH	K4541
	11468972	IC LM340T8 TO220 T REG 8V	LM340T8
23	10806602	BRACKET, MOUNTING	MB0160
	10808376	W/SPACER	MB1003
	11392339	SYSTEM	MC3357P
	10822757	MANUAL SERVICE 20-112	MS2000112
	10844645	XEROX COPY	MU2000112
IC7	10890051	MC12013P PRESCALAR	MX3251
IC103	10896413	TD62501P SQUELCH CIR	MX4299
	10896421	TC4016BP INTF	MX4300
IC106	10896454	USE LM340T8	MX4303
IC104		TA7521P	MX4437
		SN76007 OUT AMP	MX4554
IC6	10898583	TC40228BP BCD -DEC DCDR	MX4748
IC1		GRE7954 UP	MX4754
IC9	10898609	IC, CD4009CN DIP 16 T BUF	MX4755
IC4		TC5069BP LTCH DCDR/DRVR	MX4758
IC10		HD74LS26P NAND BUF	MX4759
IC2	10901031	IC TC5501 DIP22 T RWM	MX5343
R246 R252	10939080	10 5% 1/4W CBF RES	N0063EEC
R128 R157	10939395	22 5% 1/4W CBF RES	N0078EEC
R167 R268	10939742	47 5% 1/4W CBF RES	N0099EEC
R108 R110 R118 R131	10940187	100 5% 1/4W CBF RES	N0132EEC
R141	10940187		N0132EEC
R147 R170 R172 R184	10940187		N0132EEC
R216 R217 R267 R21 R24	10940187		N0132EEC
R269	10940880	330 5% 1/4W CBF RES	N0159EEC
R143 R171 R192 R206	10941029	470 5% 1/4W CBF RES	N0169EEC
R210	10941029		N0169EEC
R212 R215 R266 R20 R26	10941029		N0169EEC
R117 R139 R151 R155	10941342	1K 5% 1/4W CBF RES	N0196EEC
R156	10941342		N0196EEC
R160 R163 R177 R186	10941342		N0196EEC
R207	10941342		N0196EEC
R229	10941342		N0196EEC
R23 R25 R35	10941342		N0196EEC
R236 R255 R260 R127	10941342		N0196EEC
R13	10941532	1.8K 5% 1/4W CBF RES	N0210EEC
R107 R113 R125 R136	10941680	2.2K 5% 1/4W CBF RES	N0216EEC
R162	10941680		N0216EEC
R176 R188 R205 R233	10941680		N0216EEC
R243	10941680		N0216EEC
R250 R19 R22 R30-33	10941680		N0216EEC
R149 R189 R191 R193	10941904	3.3K 5% 1/4W CBF RES	N0230EEC
R242	10941904		N0230EEC
R251 R262 R245 R27	10941904		N0230EEC
R103 R114 R115 R119	10942118	4.7K 5% 1/4W CBF RES	N0247EEC
R132	10942118		N0247EEC
R138 R144 R153 R165	10942118		N0247EEC
R185	10942118		N0247EEC
R197 R211 R219 R235	10942118		N0247EEC
R254	10942118		N0247EEC

R244 RR1 R6 R10 R36	10942209	5.6K	5%	1/4W	CBF RES	N0257EEC
R37	10942209					N0257EEC
R101 R105 R116 R120	10942498	10K	5%	1/4W	CBF RES	N0281EEC
R140	10942498					N0281EEC
R145 R154 R158 R168	10942498					N0281EEC
R173	10942498					N0281EEC
R175 R180 R182 R218	10942498					N0281EEC
R2-5 R7-9 R15 R34	10942498					N0281EEC
R220	10942498					N0281EEC
R221 R223 R226 R234	10942498					N0281EEC
R237	10942498					N0281EEC
R238 R248 R249 R259	10942498					N0281EEC
R270	10942498					N0281EEC
R129 R150 R169 R198	10943108	33K	5%	1/4W	CBF RES	N0324EEC
R16 R17	10943108					N0324EEC
R29	10943108					N0324EEC
R199	10943165	39K	5%	1/4W	CBF RES	N0330EEC
R209 R214 R224 R240	10943611	100K	5%	1/4W	CBF RES	N0371EEC
R228	10943611					N0371EEC
R39	10943611					N0371EEC
VR1		POT SQUELCH				P7153
RA1		RESISTOR ARRAY 100K				RX0214
RA2		RES ARRAY 100K				RX0252
T108	11097169	TRANSFORMER, POWER				TA0790
	11097169					TA0790
10		USE WB0143				W1000
		REPLACED BY WB0143				W1000
	11113958	WITH FUSE				W2306
10	11121639	CORD, AC L6.5F BLACK				WB0143
		PCB LOGIC ASSY				X8797

(This list was generated on 07/08/2005 )