Civil Air Patrol
North Carolina Wing
U. S. Air Force Auxiliary
Technisonics TDFM-9100 Multi-Band Radio REFERENCE

NOTE: **The manufacturer of the radio has excellent training products to support this unit. HOWEVER, some of the features of the radio have been changed from the manufacturer's default settings to settings that are more appropriate for the missions conducted by the Civil Air Patrol. This guide is to be considered the most up to date authority on feature sets, button nomenclature and mode layout of the radio.**

GLOSSARY OF TERMS

CHANNEL – Term that describes a specific radio frequency in conventional radio.

CONVENTIONAL – Term that describes a radio function where radio signals are transmitted, processed and received without the use of a computer to perform a trunking function.

CTCSS – Acronym. Continuous Tone-Coded Squelch System. A sub-audible analog tone that is transmitted with analog voice communication that opens the squelch on another radio. Used to prevent unwanted opening of squelch due different users on the same frequency. Commercially known as "PL Tone" or "Channel Guard". Available CTCSS tones are listed in a separate tab.

CSQ – Carrier Squelch. The radio will open squelch on any transmission received on the tuned frequency. Radios programmed with CSQ are subject to interference and unwanted skips from distant stations on the same frequency. This is multiplied with altitude in an aircraft.

DCS - Acronym. Digital Coded Squelch. A sub-audible digital tone that is transmitted with analog voice communication that opens the squelch on another radio. Used to prevent unwanted opening of squelch due different users on the same frequency. Commercially known as "DPL Tone" or "Digital Channel Guard". Available DCS tones are listed in a separate tab.

MODE – A slot in the radio for an individual channel or talkgroup to be programmed.

MONITOR – In conventional radio, turning monitor function on turns off the requirement for a radio transmission to have the correct CTCSS/DCS/NAC code in order to open the radio squelch.

NAC – Acronym. Network Access Code. A sub-audible digital tone that is transmitted with digital (P25) voice communication that opens the squelch on another radio. Used to prevent unwanted opening of squelch due different users on the same frequency.

P25 – Radio transmission protocol where information is transmitted and received digitally. Digitizing the signal allows for the voice signal to be transmitted as data. Additionally, other pieces of information can be transmitted as data. P25 transmissions are subject to packet loss, which can lead to a failure in communication.

PACKET LOSS – When a digital (P25) signal is transmitted by a radio, some or all of the digitized information is not received by the system or other user radio resulting in incomplete transmission and broken communication.

REF – Acronym specific to the TDFM-9100. Rotary Encoder Function. The rotary encoder is the knob on the lower left side of the radio face.

Rx – Abbreviation for Receive

SIMPLEX – The radio is transmitting and receiving on the same frequency. No repeaters are being used to relay or amplify transmissions.

Tx – Abbreviation for Transmit

TALKGROUP – Term used in trunking radio that describes a group of radios that a communicating with each other. Similar to a channel, but talkgroups are not frequency specific like a conventional channel.

TRUNKING – Radio function where a computer system controls and assigns the availability of the various frequencies of the radio system. VIPER is a trunked radio system.

VIPER – Acronym. Voice InteroPerability for Emergency Responders. The statewide, trunked radio system in the 700/800 spectrum for voice communication for public safety entities.

ZONE – A group of channels and/ or talkgroups that have a similar function and have been grouped together by the radio programmer for function or radio operator convenience.

SCREEN NOMENCLATURE

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▶NCEM  CAP 1 NC          Z↑MPHØC
   ZONE/CHANNEL          MODULE SYMBOLS
   SOFT KEY DEFINITIONS  REF INDICATOR
   ZONE  SCAN  FPP       CHAN-016
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The screen can be divided into four separate area, each with a specific function.

1. Zone / Channel area.
2. Module Symbols
3. Soft Key Definition
4. Rotary Encoder Function Indicator

Zone / Channel area

ZONE - The first five characters are the name of the zone. There are 12 zones; which are listed are listed on reverse side of this tab.

CHANNEL – The last nine characters are the name of the individual channel or talkgroup. The individual channels and talkgroups are listed on individual tabs elsewhere in this document.

Zn #	Zn Name	Zn Description	FPP
1	CAPUS	National VHF CAP channels.	N
2	CAPNC	NC Specific VHF channels and VIPER talkgroups.	N
3	AOB	Airfield Operations Battalion channels.	Y
4	NCEM	NC Emergency Management VIPER talkgroups.	N
5	NCAIR	VIPER talkgroups for air / ground coordination.	N
6	S-EVT	State Event VIPER talkgroups used for common communications between various resources.	N
7	NTROP	National VHF, UHF, 700 & 800 interoperability channels.	N
8	BOAT	US VHF Marine channels for operating with maritime or swift water teams.	N
9	FRS	UHF Family Radio Service used as an affordable walkie-talkie for private individuals.	N
10	V-FPP	16 blank channels for Front Panel Programming in the VHF conventional spectrum.	Y
11	U-FPP	16 empty channels for Front Panel Programming in the UHF conventional spectrum.	Y
12	78FPP	16 empty channels for Front Panel Programming in the 700/800 conventional spectrum.	Y
13	WX	NOAA weather radio broadcast stations, receive only capability.	N

SCREEN
NOMENCLATURE

Module Symbols area

Symbols that indicate to the user that certain features of the radio are active or inactive. From left to right, the mission symbols are:

$$Z \uparrow M P H \emptyset A$$

Z – If the "Z" is present, the radio is <u>scanning</u> the pre-programmed scan list. Absence of the "Z" is the indicator that the radio is not scanning.

↑ - If the upward arrow is present, then the selected channel is operating in a <u>simplex or direct</u> manner. This means that the radio is transmitting on the same frequency as it is receiving and by-passing a repeater.

M – If the "M" is present, the radio is <u>monitoring</u> the selected channel with the CTCSS/DCS/NAC requirement deactivated. The radio will open the squelch for any and all transmissions received on the selected channel. Absence of the "M" is the indicator that the radio requires the correct CTCSS/DCS/NAC code to open the squelch. Transmissions without the correct CTCSS/DCS/NAC tone are ignored by the radio.

P – If the "P" indicator is present, the currently displayed channel or talkgroup is the <u>priority</u> of the scan list. By NCWG programming, the selected channel or talkgroup will always be the priority when scanning.

H or L – Indicates the radio <u>transmitting power level</u>; high or low. This feature can be changed by use of the soft keys. Remember, good radio operator technique dictates to use as little power as necessary for effective communication. Over powering transmissions could cause interference, distortion or damage to other radio equipment.

O or Ø – Pronounced "Oh" or "Zero". "Oh" indicates that the <u>scan feature is turned on</u>. The "Zero" indicated that the scan feature is turned off. This indication is changed by pressing the 0/ESW key.

A or B or C – Indicates the <u>position of the */TSW key</u>. Indications A and C have no function, and either are desirable for normal operation. Indication B places the radio into Scan List Program Mode. When the radio is in Scan List Program Mode, it IS NOT RECEIVING ANY RADIO TRAFFIC. If the radio stays in indication B for a period of time with no interaction, the radio will sound a loud tone, reminding the user that the receive function of the radio is off.

Soft Key Definitions area

There are three (3) buttons on the face of the radio whose function is dependent on the mode of the radio; that is the functions of the buttons change based on the mode of the radio. The keys are indicated by the " – " marking. The left most key correlates with the left most title. Likewise, the center key corresponds with the middle title and the right most key with the right most title. NCWG radios soft keys are programmed in the following manner:

CONVENTIONAL CHANNELS	TRUNKED TALKGROUPS
ZnUP -Select Zone Up	ZnUp – Select Zone Up
ZnDn – Select Zone Down	ZnDn – Select Zone Down
FPP – Front Panel Program	PWR – Hi / Low Power
PWR – Hi / Low Power	MUTE – Cycles button beep
DIR – Simplex / Repeater	NUIS – Nuisance Delete
NUIS – Nuisance Delete	

Rotary Encoder Function (REF) Indicator area

The REF indicator displays the current function of the rotary encoder knob on the front panel. The knob is a rotary encoder, which turns endlessly. The knob also has a push button incorporated so you can press the knob as well. Pressing the knob will toggle through the following possible knob modes:

	The Rotary Encoder will change:
Channel	Modes (Channels or Talkgroups)
Volume	Increase or decrease volume
Zone	Scroll through zones
NumLock	Redefines keypad for numbers, not functions
Recall	Allows user to type in the mode number for a specific channel or talkgroup in the current selected zone.

BUTTON NOMENCLATURE

1 / F1	Mode Select 1 – VIPER CAP 1 NC
2 / F2	Mode Select 2 – AIR 2
3 / F3	Mode Select 3 – VIPER NC EOC
# / F4	Volume Set Tone
BAND	No function for NCWG
4 / MUP	Mode Up (Channel / Talkgroup Up)
5 / UP	Scroll soft keys right
6 / BRT	Brighten screen
0 / ESW	Turn Scan On / Turn Scan Off
FUNC	Master Radio Settings
7 / MDN	Mode Down (Channel / Talkgroup Down)
8 / DN	Scroll soft keys left
9 / DIM	Dim the screen
* / TSW	A – Blank, B – Scan List Program, C - Blank

FRONT PANEL PROGRAMMING

The TDFM-9100 has the option to front panel program analog and digital conventional channels in the VHF, UHF and the 700/800 modules. The AOB, V-FPP, U-FPP and 78FPP zones are the only zones where front panel programming can be conducted. All other zones are locked and can only be changed with the appropriate software. Pressing FPP will initiate the following process:

RX Frequency - The receive frequency of the current channel will be displayed with the first digit blinking. Type in the desired frequency or just press the 'Next' menu key for no changes. Pressing 'Exit' menu key or the HOME key at any time will escape the programming process and bring the radio back into normal operating mode. If an invalid frequency is entered, the radio will revert to the previously programmed frequency.

TX Frequency - The transmit frequency can be edited in the same fashion as the RX frequency.

RX Mode - The receive mode will be displayed. The mode can be Analog, Digital (P25), or Mixed (both). Press the knob or the 'Next' menu key.

TX Mode - The transmit mode will be displayed. Transmit mode can only be Analog or Digital and can only be changed if the receive mode was Mixed.

RX CTCSS - Receive CTCSS tone (also known as a PL or TPL tone) will be displayed. Rotate the knob for the desired tone or 'OFF.' Press the knob or 'Next' menu key.

RX DCS - RX DCS will only appear if the RX CTCSS was set to 'OFF.' The receive DCS code (also known as a DPL code) will be displayed. Rotate the knob to the desired code or 'OFF.' Selecting OFF will set the channel to carrier squelch only. Press the knob or 'Next' menu key.

TX CTCSS - Transmit CTCSS tone will be displayed. Rotate the knob for the desired tone or 'OFF.' Press the knob or 'Next' menu key.

TX DCS - TX DCS will only appear if the TX CTCSS was set to 'OFF.' The transmit DCS code will be displayed. Rotate the knob to the desired code or 'OFF.' Selecting off will set the channel to carrier only. Press the knob or 'Next' menu key.

RX NAC - The receive network access code will be displayed. The NAC is a 3-digit hexadecimal number which can include digits 0-9 and letters A-F. The keypad will act as numbers or letters. '123' or 'ABC' will be displayed on the bottom right corner of the display to indicate the mode which can be changed by rotating the knob. Press the knob or the 'Next' menu key when the desired NAC is entered.

TX NAC - Enter the TX NAC as described above in RX NAC

Zone Name - The Zone name will be displayed. The first letter will be flashing. Rotating the knob will scroll through the available letters, numbers, and symbols. Press the knob to move to the next letter. Press 'Next' when done editing. PLEASE DO NOT CHANGE ZONE NAMES IN NCWG AIRCRAFT.

Channel Name - The Channel name will be displayed. Edit the channel name as described above.

Talkgroup ID - The Talkgroup ID will be displayed. This is a 4-digit hexadecimal number that can be edited as described under RX NAC above. Press 'Next' when done editing.

Press the knob one more time and the radio will return to normal operating mode.

NOTE: Trunked or VIPER talkgroups cannot be front panel programmed.

CTCSS / PL / CHANNEL GUARD TONES

TONE	MOT	WULF	TONE	MOT	WULF	TONE	MOT	WULF	TONE	MOT	WULF
67.0	XZ	01	97.4	ZB	13	141.3	4A	26	206.5	8Z	62
69.3	WZ	51	100.0	1Z	14	146.2	4B	27	210.7	M2	41
71.9	XA	02	103.5	1A	15	151.4	5Z	28	218.1	M3	42
74.4	WA	03	107.2	1B	16	156.7	5A	31	225.7	M4	43
77.0	XB	04	110.9	2Z	17	162.2	5B	32	229.1	9Z	47
79.7	WB	05	114.8	2A	18	167.9	6Z	33	233.6	M5	44
82.5	YZ	06	118.8	2B	21	173.8	6A	34	241.8	M6	45
85.4	YA	07	123.0	3Z	22	179.9	6B	35	250.3	M7	46
88.5	YB	08	127.3	3A	23	186.2	7Z	36	254.1	OZ	63
91.5	ZZ	11	131.8	3B	24	192.8	7A	37	CSQ	CSQ	00
94.8	ZA	12	136.5	4Z	25	203.5	M1	38			

CTCSS / DCS / NAC CODE

DCS / DPL / DIGITAL CHANNEL GUARD TONES

CTCSS / DCS / NAC CODE

703	712	723	731	732	734	743	754							
606	612	624	627	631	632	654	662	664						
503	506	516	532	546	565									
411	412	413	423	431	432	445	464	465	466					
306	311	315	331	343	346	351	364	365	371					
205	223	226	243	244	245	251	261	263	265	271				
114	115	116	125	131	132	134	143	152	155	156	162	165	172	174
23	25	26	31	32	43	47	51	54	65	71	72	73	74	

NAC CODES

Network Access Codes have many combinations, far too many to list in this guide. NAC codes are in Hexadecimal (Base 16) format and contain numerals and letters A through F. There are two NAC codes that may be of use.

NAC 293 – The default NAC code used nationwide.

NAC F7E – If this RX NAC is set to this code, the aircraft radio will open the squelch regardless of the actual NAC being transmitted. This is similar to CSQ.

CAPUS ZONE MEMBERS

#		#		#		#		#		#	
1	CC 1	*32*	R11	*62*	R26	*92*	R41	*122*	R56		
2	CC 1P	*33*	R11P	*63*	R26P	*93*	R41P	*123*	R56P		
3	CC 2	*34*	R12	*64*	R27	*94*	R42	*124*	R57		
4	CC 2P	*35*	R12P	*65*	R27P	*95*	R42P	*125*	R57P		
5	AIR 1	*36*	R13	*66*	R28	*96*	R43	*126*	R58		
6	AIR 1P	*37*	R13P	*67*	R28P	*97*	R43P	*127*	R58P		
7	AIR 2	*38*	R14	*68*	R29	*98*	R44	*128*	R59		
8	AIR 2P	*39*	R14P	*69*	R29P	*99*	R44P	*129*	R59P		
9	TAC 1	*40*	R15	*70*	R30	*100*	R45	*130*	R60		
10	TAC 1P	*41*	R15P	*71*	R30P	*101*	R45P	*131*	R60P		
11	CAPGUARD	*42*	R16	*72*	R31	*102*	R46	*132*	R61		
12	R01	*43*	R16P	*73*	R31P	*103*	R46P	*133*	R61P		
13	R01P	*44*	R17	*74*	R32	*104*	R47	*134*	R62		
14	R02	*45*	R17P	*75*	R32P	*105*	R47P	*135*	R62P		
15	R02P	*46*	R18	*76*	R33	*106*	R48	*136*	R63		
16	R03	*47*	R18P	*77*	R33P	*107*	R48P	*137*	R63P		
17	R03P	*48*	R19	*78*	R34	*108*	R49	*138*	R64		
18	R04	*49*	R19P	*79*	R34P	*109*	R49P	*139*	R64P		
19	R04P	*50*	R20	*80*	R35	*110*	R50	*140*	R67		
20	R05	*51*	R20P	*81*	R35P	*111*	R50P	*141*	R67P		
21	R05P	*52*	R21	*82*	R36	*112*	R51	*142*	R68		
22	R06	*53*	R21P	*83*	R36P	*113*	R51P	*143*	R68P		
23	R06P	*54*	R22	*84*	R37	*114*	R52	*144*	R69		
24	R07	*55*	R22P	*85*	R37P	*115*	R52P	*145*	R69P		
25	R07P	*56*	R23	*86*	R38	*116*	R53	*146*	R70		
26	R08	*57*	R23P	*87*	R38P	*117*	R53P	*147*	R70P		
27	R08P	*58*	R24	*88*	R39	*118*	R54				
28	R09	*59*	R24P	*89*	R39P	*119*	R54P				
29	R09P	*60*	R25	*90*	R40	*120*	R55				
30	R10	*61*	R25P	*91*	R40P	*121*	R55P				
31	R10P										

CAPUS ZONE
CAPNC ZONE

CAPNC ZONE MEMBERS

#			#			#		
1	CC 1		19	CONC-48P		37	NBER-R49	
2	CC 1P		20	COWE-R50		38	NBER-49P	
3	CC 2		21	COWE-50P		39	NPRT-R48	
4	CC 2P		22	EDNT-R58		40	NPRT-48P	
5	AIR 1		23	EDNT-58P		41	PSGH-R41	
6	AIR 1P		24	FARM-R37		42	PSGH-41P	
7	AIR 2		25	FARM-37P		43	R67	
8	AIR 2P		26	FAYV-R39		44	R67P	
9	TAC 1		27	FAYV-39P		45	R68	
10	TAC 1P		28	FSHR-R57		46	R68P	
11	CAPGUARD		29	FSHR-57P		47	R69	
12	CAP 1 NC	VIPER	30	GAST-R49		48	R69P	
13	CAP 2 NC	VIPER	31	GAST-49P		49	R70	
14	CAP 3 NC	VIPER	32	HBRT-R20		50	R70P	
15	CAP 4 NC	VIPER	33	HBRT-20P		51	R63	
16	CHAP-R50		34	ILM-R61		52	R63P	
17	CHAP-50P		35	ILM-61P		53	R64	
18	CONC-R48		36			54	R64P	
						55	NC EOC	VIPER

AOB ZONE MEMBERS

#		#		#	
1	TOWER	9	AIR 1	17	AEMPTY3
2	GROUND	10	AIR 1P	18	AEMPTY4
3	GCA	11	AIR 2	19	AEMPTY5
4	FLTFOL	12	AIR 2P	20	AEMPTY6
5	CC 1	13	TAC 1	21	AEMPTY7
6	CC 1P	14	TAC 1P	22	AEMPTY8
7	CC 2	15	AEMPTY1	23	APGUARD
8	CC 2P	16	AEMPTY2		

NCEM ZONE MEMBERS

All VIPER TG's except for 700 T/A Channels					
1	EOC	9	SW CALL	17	JOC
2	EBO	10	SW LAW	18	SMAT
3	CBO	11	SW FIRE	19	EM TAC
4	WBO	12	SW EMS	20	EM TAC2
5	CAP 1 NC	13	SW GEN	21	700 T/A1
6	CAP 2 NC	14	NC RRT	22	700 T/A2
7	CAP 3 NC	15	NC SAR	23	700 T/A3
8	CAP 4 NC	16	AIR CMN	23	700 T/A4

NCAIR ZONE MEMBERS

All are VIPER Talkgroups					
1	CAP 1 NC	9	AIROPS4	17	H60 OPS
2	CAP 2 NC	10	AIROPS5	18	H72 OPS
3	CAP 3 NC	11	AIROPS6	19	SHP AIR
4	CAP 4 NC	12	AIROPS7	20	USCG
5	COMMON	13	AIROPS8	21	LZ EAST
6	AIROPS1	14	AIROPS9	22	LZ CENT
7	AIROPS2	15	AIROPS10	23	LZ WEST
8	AIROPS3	16	AIRBOSS		

S-EVT ZONE MEMBERS

State Event talkgroups are available to all system users, however access is controlled by the NCEM 24-hour operations center and State Highway patrol Technical Services Unit. Talkgroups can be requested and reserved through the 24-hour operations center at (919) 733-3300 or the NC EOC VIPER talkgroup.

	All are VIPER Talkgroups				
1	ALPHA 1	12	CHARLY 4	23	FOX 3
2	ALPHA 2	13	DELTA 1	24	FOX 4
3	ALPHA 3	14	DELTA 2	25	GOLF 1
4	ALPHA 4	15	DELTA 3	26	GOLF 2
5	BRAVO 1	16	DELTA 4	27	GOLF 3
6	BRAVO 2	17	ECHO 1	28	GOLF 4
7	BRAVO 3	18	ECHO 2	29	HOTEL 1
8	BRAVO 4	19	ECHO 3	30	HOTEL 2
9	CHARLY 1	20	ECHO 4	31	HOTEL 3
10	CHARLY 2	21	FOX 1	32	HOTEL 4
11	CHARLY 3	22	FOX 2		

NTROP ZONE MEMBERS

Channels in the Interoperability zone are all conventional channels, however some may have analog modulation, while others may have digital modulation. All channels are programmed by guidance from the National Interoperability Field Operations Guide.

1	VCALL10	17	UTAC42	33	7TAC76
2	VTAC11	18	UTAC43	34	7TAC77
3	VTAC12	19	7CALL50	35	7 AG 58
4	VTAC13	20	7TAC51	36	7 AG 60
5	VTAC14	21	7TAC52	37	7 AG 67
6	VSAR16	22	7TAC53	38	7 AG 68
7	VTAC17	23	7TAC54	39	7 AG 78
8	VTAC17D	24	7TAC55	40	7 AG 80
9	VTAC33	25	7TAC56	41	7 AG 85
10	VTAC34	26	7TAC57	42	7 AG 88
11	VTAC35	27	7CALL70	43	8CALL90
12	VTAC36	28	7TAC71	44	8TAC91
13	VTAC37	29	7TAC72	45	8TAC92
14	VTAC38	30	7TAC73	46	8TAC93
15	UCALL40	31	7TAC74	47	8TAC94
16	UTAC41	32	7TAC75		

NOTE: FCC rule 90.531(7) states: (i) Airborne use of these channels are limited to aircraft flying at or below 457 meters (1500 feet) above ground level. (ii) Aircraft are limited to 2 watts effective radiated power (ERP) when transmitting while airborne on these channels.

BOAT ZONE MEMBERS

Marine VHF channels are intended for working directly with NCEM boat teams, USCG or USCG Auxiliary vessels. Inland use of the channels is generally prohibited unless working directly with these resources.

1	01A	*11*	14	*21*	23A
2	05A	*12*	15	*22*	24
3	6	*13*	16	*23*	25
4	07A	*14*	17	*24*	26
5	8	*15*	18A	*25*	27
6	9	*16*	19A	*26*	28
7	10	*17*	20	*27*	63A
8	11	*18*	20A	*28*	65A
9	12	*19*	21A	*29*	66A
10	13	*20*	22A		

FRS ZONE MEMBERS

CAPR 100-1, Section 9.11.1. Limited Emergency Services FRS Use. One exception to the prohibition against ES use of FRS is when attempting to contact victims or the objects of a search. If it is believed that the victims or search target may be carrying FRS, ES personnel MAY use FRS in an attempt to contact the victims directly, including transmissions from CAP aircraft. FRS will not be used for operation among ES personnel or for any other manner of ES communications support.

1	FRS 01	*8*	FRS 08	*15*	FRS 15
2	FRS 02	*9*	FRS 09	*16*	FRS 16
3	FRS 03	*10*	FRS 10	*17*	FRS 17
4	FRS 04	*11*	FRS 11	*18*	FRS 18
5	FRS 05	*12*	FRS 12	*19*	FRS 19
6	FRS 06	*13*	FRS 13	*20*	FRS 20
7	FRS 07	*14*	FRS 14	*21*	FRS 21
				22	FRS 22

V-FPP, U-FPP & 78FPP ZONE MEMBERS

	V-FPP	NOTES		U-FPP	NOTES
1	VEMPTY1		*1*	UEMPTY1	
2	VEMPTY2		*2*	UEMPTY2	
3	VEMPTY3		*3*	UEMPTY3	
4	VEMPTY4		*4*	UEMPTY4	
5	VEMPTY5		*5*	UEMPTY5	
6	VEMPTY6		*6*	UEMPTY6	
7	VEMPTY7		*7*	UEMPTY7	
8	VEMPTY8		*8*	UEMPTY8	
9	VEMPTY9		*9*	UEMPTY9	
10	VEMPTY10		*10*	UEMPTY10	
11	VEMPTY11		*11*	UEMPTY11	
12	VEMPTY12		*12*	UEMPTY12	
13	VEMPTY13		*13*	UEMPTY13	
14	VEMPTY14		*14*	UEMPTY14	
15	VEMPTY15		*15*	UEMPTY15	
16	VEMPTY16		*16*	UEMPTY16	

	78FPP	NOTES
1	EMPTY 1	
2	EMPTY 2	
3	EMPTY 3	
4	EMPTY 4	
5	EMPTY 5	
6	EMPTY 6	
7	EMPTY 7	
8	EMPTY 8	
9	EMPTY 9	
10	EMPTY 10	
11	EMPTY 11	
12	EMPTY 12	
13	EMPTY 13	
14	EMPTY 14	
15	EMPTY 15	
16	EMPTY 16	

FPP / WX ZONES

NOAA WX ZONE MEMBERS

1	VHF WX1	6	VHF WX6
2	VHF WX2	7	VHF WX7
3	VHF WX3	8	VHF WX8
4	VHF WX4	9	VHF WX9
5	VHF WX5		

FPP / WX
ZONES