FlexRadio Systems®
Software Defined Radios

PowerSDR™ 2.x CAT Command Reference Guide

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General Information

A CAT command consists of a prefix, a parameter list, and a terminator. Commands fall into one of three categories: **Get** (read) commands that request status information from the transceiver; **Set** (write) commands that change transceiver status; and **Answer** (response) commands that return information requested in a Get command or error codes. A correctly executed Set command does not return an Answer command.

The terminator for all CAT commands is the semicolon (;). CAT commands are not case sensitive. Get and Set commands must contain the correct number of parameter characters as shown in the accompanying tables. Most Get commands are simply the prefix followed by a termination, but there are special cases where a Get command will require parameters.

Verbose Error Messages

ZZEM1; enables verbose error messages, otherwise the standard Kenwood "?;" will be returned on an error. With verbose messaging enabled, the following errors are returned in the format: ZZEM:the command sent:error message;:

Prefix Length Error
Inactive Command
Unknown Command
Undefined Command Error
Illegal Suffix Format
Suffix Length Error
Feature Not Available
Form Must Be Open
Value Out of Bounds

Examples are:

ZZEM:AG:Suffix Length Error; AG s/b AG0; or AG0000 – AG0100;
ZZEM:ZZXX:Unknown Command ZZXX is not a valid CAT command.
ZZEM:ZZRS:Feature Not Available RX2 is not available

Verbose error messaging was developed to assist third party developers when troubleshooting, it is not advisable to enable it unless you know what you are doing.

FlexRadio PowerSDR Commands by Functional Group

RECEIVE AUDIO PROCESSING AND CONTROL

ZZAG	Sets or reads the Audio Gain	AG
ZZBI	Sets or reads the Binaural (BIN) status	
ZZEA	Sets or reads the RX EQ values	
ZZER	Sets or reads the RX EQ status	
ZZLA	Sets or reads the Main RX Gain (MultiRX Group)	
ZZLB	Sets or reads the Main RX Stereo Balance (MultiRX Group)	
ZZLE	Sets or reads the RX2 Gain (Flex5000 w/RX2 only)	
ZZLF	Sets or reads the RX2 Stereo Balance (Flex5000 w/RX2 only)	
ZZLG	Sets or reads the AutoMuteRX1onVFOBTX checkbox (F5K only)	
ZZLH	Sets or reads the AutoMuteRX2onVFOATX checkbox (F5K/RX2 only)	
ZZMA	Sets or reads the RX1 Mute (MUT) status	
ZZMB	Sets or reads the RX2 Mute status	
ZZMO	Sets or reads the Monitor (MON) status	MO

RECEIVE RF PROCESSING AND CONTROL

ZZAR	Sets or reads the RX1 AGC-T	
ZZAS	Sets or reads the RX2 AGC-T	
ZZGT	Sets or reads the AGC Mode Selector	
ZZPA	Sets or reads the Preamp Gain setting	
ZZPB	Sets or reads the RX2 Preamp status	
ZZSO	Sets or reads the RX1 Squelch on/off status	
ZZSQ	Sets or reads the RX1 Squelch level	SQ
ZZSV	Sets or reads the RX2 Squelch button	
ZZSX	Sets or reads the RX2 Squelch Threshold	

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VFO CONTROL

ZZAC	Sets or reads the Tune Step	
ZZAD	Moves VFO A down by a selected step	
ZZAU	Moves VFO A up by a selected step	
ZZBM	Moves VFO B down by a selected step	
ZZBP	Moves VFO B up by a selected step	
ZZFA	Sets or reads VFO A frequency	FA
ZZFB	Sets or reads VFO B frequency	FB
ZZQM	Reads the Quick Save Memory value	
ZZQR	Restores the Quick Save Memory value	
ZZQS	Saves Frequency A, Mode, and Band to Quick Memory	QI
ZZRC	Clears the RIT frequency	RC
ZZRD	Decrements the RIT frequency	RD
ZZRF	Sets or reads the RIT frequency	
ZZRT	Sets or reads the RIT button status	RT
ZZRU	Increments the RIT frequency	RU
ZZSA	Moves VFO A down one Tune Step	DN
ZZSB	Moves VFO A up one Tune Step	UP
ZZSD	Decrements the Tune Step	
ZZSG	Moves VFO B down one Tune Step	
ZZSH	Moves VFO B up one Tune Step	
ZZSP	Sets or reads the VFO Split button status	FT
ZZST	Reads the frequency step size (Deprecated)	
ZZSU	Increments the Tune Step	
ZZSW	Sets or reads VFO A TX/VFO B TX buttons	
ZZSY	Sets or reads the VFO Sync Button	
ZZSZ	Syncs VFO A or B to the current Tune Step	
ZZTV	Sets or reads the TX VFO frequency when RX2 enabled	
ZZVL	Sets or reads the VFO Lock status	
ZZVS	Sets the VFO Swap status	
ZZXC	Clears the XIT frequency	
ZZXF	Sets or reads the XIT frequency	
ZZXS	Sets or reads the XIT button status	
ZZZB	Sets the Zero Beat button	

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NOISE REJECTION

ZZBR	Sets or reads the BCI Rejection button	
ZZNA	Sets or reads RX1 Noise Blanker 1 (NB) status	NB
ZZNB	Sets or reads RX1 Noise Blanker 2 (NB2) status	
ZZNC	Sets or reads RX2 Noise Blanker 1 status	
ZZND	Sets or reads RX2 Noise Blanker 2 status	
ZZNL	Sets or reads Noise Blanker 1 threshold	
ZZNM	Sets or reads the Noise Blanker 2 threshold	
ZZNR	Sets or reads the Noise Reduction (NR) status	
ZZNT	Sets or reads the Auto Notch Filter (ANF) status	NT
ZZSR	Sets or reads the Spur Reduction (SR) status	

DSP RECEIVE FILTERS

ZZFH	Sets or reads the selected RX1 DSP Filter high cutoff
ZZFI	Sets or reads the selected RX1 DSP Filter low cutoff
ZZFJ	Sets or reads the current RX2 DSP receive filter
ZZFL	Sets or reads the DSP Low Filter
ZZFR	Sets or reads the selected RX2 DSP Filter high cutoff
ZZFS	Sets or reads the selected RX2 DSP Filter low cutoff
ZZHA	Sets or reads the Audio Filter Size
ZZHR	Sets or reads the DSP RX Filter Phone Size
ZZHU	Sets or reads the DSP RX Filter CW Size
ZZHW	Sets or reads the DSP RX Filter Digital Size
ZZIS	Sets or reads the variable filter width slider
ZZIT	Sets or reads the variable filter shift slider
ZZIU	Resets the variable filter shift slider
ZZMN	Sets or reads the DSP filter names and values
ZZSF	Sets the variable filter width and center frequency

MODULATION/DETECTION MODES

ZZMD	Sets or reads the current RX1 mode	MD
ZZME	Sets or reads the current RX2 mode	
ZZML	Returns a list of DSP modes and indexes	

BAND SWITCHING

ZZBA	Moves the RX2 bandswitch down one band	
ZZBB	Moves the RX2 bandswitch up one band	
ZZBD	Moves the RX1 bandswitch down one band	BD
ZZBG	Sets or reads the Band Group (HF/VHF)	
ZZBS	Sets or reads the RX1 Bandswitch	
ZZBT	Sets or reads the RX2 Bandswitch	
ZZBU	Moves the RX1 bandswitch up one band	BU
ZZUA	Reads the XVTR Band Button Names	

DISPLAY FUNCTIONS

ZZCF Sets or reads the Show CW TX Filter checkbox
ZZCU Reads the CPU usage
ZZDA Sets or reads the Display Average (AVG) status
ZZDM Sets or reads the Display Mode
ZZDN Sets or reads the Waterfall Lo Value
ZZDO Sets or reads the Waterfall Hi Value
ZZDP Sets or reads the Spectrum Grid Max Value
ZZPQ Sets or reads the Spectrum Grid Min Value
ZZPR Sets or reads the Spectrum Grid Step Value
ZZPD Sets the Display Pan Center button
ZZPE Sets or reads the Display Pan Position
ZZPO Sets or reads the Display Peak button
ZZPY Sets or reads the Display Zoom slider
ZZPZ Sets or reads the Display Zoom buttons
ZZTF Sets or reads the Show TX Filter checkbox

METERING

ZZMR Sets or reads the RX Meter mode
ZZMT Sets or reads the TX Meter mode
ZZRM Reads the RX Meter value
ZZSM Reads the S Meter SM

TRANSMIT AUDIO PROCESSING AND CONTROL

ZZCP Sets or reads the Compander (CPDR) status
ZZCT Sets or reads the Compander threshold
ZZDX Sets or reads the Phone DX button status
ZZDY Sets or reads the Phone DX Level
ZZEB Sets or reads the TX EQ values
ZZET Sets or reads the TX EQ button status
ZZGE Sets or reads the Noise Gate button status
ZZGL Sets or reads the Noise Gate threshold
ZZHT Sets or reads the DSP TX Filter Phone Size
ZZHV Sets or reads the DSP TX Filter CW Size
ZZHX Sets or reads the DSP TX Filter Digital Size
ZZMG Sets or reads the Mic Gain
~~ZZPK Sets or reads the Compressor (COMP) status~~ Obsolete 2/15/2008
~~ZZPL Sets or reads the Compressor (COMP) threshold~~ Obsolete 2/15/2008
ZZTH Sets or reads the TX Filter High setting
ZZTI Transmit Inhibit
ZZTL Sets or reads the TX Filter Low setting
ZZTM Sets or reads the TX AF Monitor
ZZTO Sets or reads the TUN Power Level

ZZTP	Sets or reads the Transmit Profile	
ZZTU	Sets or reads the Tune (TUN) status	
ZZTX	Sets or reads the MOX button status	RX/TX
ZZVA	Sets or reads the VAC button status	
ZZVE	Sets or reads the VOX button status	
ZZVG	Sets or reads the VOX gain	

CW

ZZCB	Sets or reads the Break-In checkbox status	
ZZCD	Sets or reads the Break-In Delay value	
ZZCI	Sets or reads the CW Iambic checkbox status	
ZZCL	Sets or reads the CW Pitch	
ZZCM	Sets or reads the CW Monitor checkbox status	
ZZCS	Sets or reads the CW Speed	
ZZKM	Sends a CWX macro	
ZZKO	Opens or closes the CWX form	
ZZKS	Sets or reads CWX CW speed	KS
ZZKY	Sends text to CWX for conversion to Morse	KY
ZZSS	Stops CWX sending (immediate)	

CAT SPECIFIC

ZZAI	Reads or sets the Auto Information function	AI
ZZEM	Enables/Disables CAT verbose error messages	
ZZFM	Reads the FlexRadio Model Number	
ZZID	Sets or reads the transceiver ID number	
ZZIF	Reads the transceiver status word	IF
ZZSN	Reads the radio serial number	
ZZVN	Reads the PowerSDR software version number	

SUBRECEIVER

ZZLC	Sets or reads RX1 (subreceiver) Gain
ZZLD	Sets or reads RX1 (subreceiver) Stereo Balance
ZZMS	Sets or reads the MultiRX Swap checkbox
ZZMU	Sets or reads the MultiRX button status

MISCELLANEOUS

ZZBY	Closes the console
ZZDE	Sets or reads the Diversity Form Enable button
ZZDF	Opens or closes the Diversity Form
ZZDU	Status Word
ZZFV	Reads FlexWire single byte data
ZZFW	Reads FlexWire double byte data
ZZFX	Sends FlexWire single data byte command
ZZFY	Sends FlexWire double data byte command

ZZIO Reads the transceiver installed options
ZZPC Sets or reads the Drive Level PC
ZZPS Sets or reads the Start button status
ZZRS Sets or reads the RX2 button status
ZZRV Reads the primary input voltage
ZZTS Reads the Flex5000 Temperature Sensor
ZZXT Sets or reads the X2TR button status

DIGITAL MODES

ZZOL Sets or reads the DigL Click Tune Offset
ZZOU Sets or reads the DigU Click Tune Offset
ZZRA Sets or reads the RTTY Offset Enable VFO A
ZZRB Sets or reads the RTTY Offset Enable VFO B
ZZRH Sets or reads the RTTY DIGH Offset Frequency
ZZRL Sets or reads the RTTY DIGL Offset Frequency

ANTENNAS

ZZOA Sets or reads the antenna connected to RX1
ZZOB Sets or reads the antenna connected to RX2
ZZOC Sets or reads the antenna connected to the transmitter
ZZOD Sets or reads the Antenna Mode (Simple/Complex)
ZZOE Sets or reads the RX1 Loop
ZZOF Sets or reads the RCA TX relay jacks
ZZOG Sets or reads the TX relay enables
ZZOH Sets or reads the TX relay delays
ZZOJ Sets or reads the Antenna Lock Checkbox
ZZOV Sets or reads the ATU Enable Button
ZZOW Sets or reads the ATU Bypass Button

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MIXER CONTROLS

ZZWA Sets or reads the F5K Mixer Mic Level
ZZWB Sets or reads the F5K Mixer Line In RCA Level
ZZWC Sets or reads the F5K Mixer Line In Phono Level
ZZWD Sets or reads the F5K Mixer Line In DB9 Level
ZZWE Sets or reads the F1500/F5K Mixer Mic Select Checkbox
ZZWF Sets or reads the F5K Mixer Line In RCA Select Checkbox
ZZWG Sets or reads the F5K Mixer Line In Phono Select Checkbox
ZZWH Sets or reads the F1500/F5K Mixer FlexWire/Line In DB9 Select Checkbox
ZZWJ Sets or reads the F1500/F5K Mixer Input Mute All Button
ZZWK Sets or reads the F5000C Mixer Internal Speaker Level
ZZWL Sets or reads the F5K Mixer External Speaker Level
ZZWM Sets or reads the F5K Mixer Headphone Level
ZZWN Sets or reads the F5K Mixer Line Out RCA Level
ZZWO Sets or reads the F5K Mixer Internal Speaker Select Checkbox
ZZWP Sets or reads the F5K Mixer External Speaker Select Checkbox
ZZWQ Sets or reads the F1500/F5K Mixer Headphone Select Checkbox
ZZWR Sets or reads the F1500/F5K Mixer FlexWire/Line Out RCA Select Checkbox
ZZWS Sets or reads the F1500/F5K Mixer Output Mute All Button
ZZWT Sets or reads the F1500 Mixer Mic Level
ZZWU Sets or reads the F1500 Mixer FlexWire Input Level
ZZWV Sets or reads the F1500 Mixer Phones Output Level
ZZWW Sets or reads the F1500 Mixer FlexWire Output Level

FM/REPEATER CONTROLS

ZZFD Sets or reads the FM Deviation Button
ZZOS Sets or reads the Repeater Offset Direction OS
ZZOT Sets or reads the Repeater Offset Frequency OF
ZZTA Sets or reads the CTCSS Enable Button CT
ZZTB Sets or reads the CTCSS Frequency CN
ZZMV Reads the number of memory channels
ZZMW Deletes a memory channel
ZZMX Restores a memory channel
ZZMY Save configuration to a new memory channel
ZZMZ Save configuration to an existing memory channel
ZZYC Sets or reads the FM Mic Gain

VAC CONTROLS

ZZVA Sets or reads the VAC1 Enable Checkbox
ZZVB Sets or reads the VAC1 RX Gain
ZZVC Sets or reads the VAC1 TX Gain
ZZVD Sets or reads the VAC1 Sample Rate
ZZVF Sets or reads the VAC1 Stereo Checkbox
ZZVH Sets or reads the I/Q to VAC1 Checkbox
ZZVI Sets or reads the VAC1 Input Cable
ZZVJ Sets or reads the I/Q to VAC1 use RX2 Checkbox
ZZVM Sets or reads the VAC1 Driver
ZZVO Sets or reads the VAC1 Output Cable
ZZVP Sets or reads the VAC1 IQ Calibrate Checkbox
ZZVK Sets or reads the VAC2 Enable Checkbox
ZZVQ Sets or reads the VAC2 Driver
ZZVR Sets or reads the VAC2 Input Cable
ZZVT Sets or reads the VAC2 Output Cable
ZZVU Sets or reads the VAC2 Sample Rate
ZZVV Sets or reads the VAC2 Stereo Checkbox
ZZVW Sets or reads the VAC2 RX Gain
ZZVX Sets or reads the VAC2 TX Gain
ZZVY Sets or reads the VAC1 Buffer Size
ZZVZ Sets or reads the VAC2 Buffer Size
ZZYA Sets or reads the VAC2 Direct IQ Enable Checkbox
ZZYB Sets or reads the VAC2 IQ Calibrate Checkbox

FlexRadio PowerSDR 2.x CAT Command Syntax

ZZAx Commands

ZZAC Command

ZZAC	**Sets or reads the Step Size (replaces ZZST)**									
Get	ZZAC	;								
Set	ZZAC	P1	P1	;						
Answer	ZZAC	P1	P1	;						
Notes	P1 = 00 to 14. 00 = 1 Hz 01 = 10 Hz 02 = 50 Hz 03 = 100 Hz 04 = 250 Hz 05 = 500 Hz 06 = 1 KHz 07 = 2.5 KHz 08 = 5 KHz 09 = 6.25 KHz 10 = 9 KHz 11 = 10 KHz 12 = 12.5 KHz 13 = 15 KHz 14 = 20 KHz 15 = 25 KHz 16 = 30 KHz 17 = 50 KHz 18 = 100 KHz 19 = 250 KHz 20 = 500 KHz 21 = 1 MHz 22 = 10 MHz If the Step Size is set to 50 Hz, ZZAC; will return ZZAC02; If you send ZZAC03; , the Step Size will be set to 100 Hz.									

ZZAD Command

ZZAD	**Moves VFO A Down By The Selected Step**									
Set	ZZAD	P1	P1	;						
Notes	ZZAC is write-only P1 = 00 to 22. See ZZAC for parameter list. ZZAD does not change the Step Size.									

ZZAG Command

ZZAG	**Sets or reads the Audio Gain control**									
Get	ZZAG	;								
Set	ZZAG	P1	P1	P1	;					
Answer	ZZAG	P1	P1	P1	;					
Notes	P1 = 000 to 100.									

ZZAI Command

ZZAI	**Sets or reads the Auto Information function**									
Get	ZZAI	;								
Set	ZZAI	P1	;							
Answer	ZZAI	P1	:							
Notes	P1 = 0 for Off, 1 or more for On. When On, the radio will broadcast the VFO (A or B) frequency when changed. Option checkbox on the Setup/CAT tab must be checked to allow this command.									

ZZAR Command

ZZAR	**Sets or reads the RX1 AGC Threshold control**									
Get	ZZAR	;								
Set	ZZAR	P1	P1	P1	P1	;				
Answer	ZZAR	P1	P1	P1	P1	;				
Notes	P1 = -20 to +120 (Must have + or – sign).									

ZZAS Command

ZZAS	**Sets or reads the RX2 AGC Threshold control**									
Get	ZZAS	;								
Set	ZZAS	P1	P1	P1	P1	;				
Answer	ZZAS	P1	P1	P1	P1	;				
Notes	P1 = -20 to +120 (Must have + or – sign).									

ZZAU Command

ZZAU	**Moves VFO A Up By The Selected Step**									
Set	ZZAU	P1	P1	;						
Notes	ZZAU is write-only P1 = 00 to 22. See ZZAC for parameter list. ZZAU does not change the Step Size.									

ZZBx Commands

ZZBA Command

ZZBA	**Moves the RX2 band switch down one band**									
Set	ZZBA	;								
Notes	ZZBA is write-only									

ZZBB Command

ZZBB	**Moves the RX2 band switch down one band**									
Set	ZZBB	;								
Notes	ZZBB is write-only									

ZZBD Command

ZZBD	**Moves the RX1 band switch down one band**									
Set	ZZBD	;								
Notes	ZZBD is write-only									

ZZBG Command

ZZBG	**Sets or reads the Band Group (HF/VHF)**									
Get	ZZBG	;								
Set	ZZBG	P1	;							
Answer	ZZBG	P1	;							
Notes	P1 = 0 for HF, 1 for VHF.									

ZZBI Command

ZZBI	**Sets or reads the Binaural (BIN) status**									
Get	ZZBI	;								
Set	ZZBI	P1	;							
Answer	ZZBI	P1	;							
Notes	P1 = 0 for off, 1 for on.									

ZZBM Command

ZZBM	**Moves VFO B Down By The Selected Step**									
Set	ZZBM	P1	P1	;						
Notes	ZZBM is write-only P1 = 00 to 22. See ZZAC for parameter list. ZZBM does not change the Step Size.									

ZZBP Command

ZZBP Moves VFO B Up By The Selected Step										
Set	ZZBP	P1	P1	;						
Notes	ZZBP is write-only P1 = 00 to 22. See ZZAC for parameter list. ZZBP does not change the Step Size.									

ZZBR Command

ZZBR Sets or reads the BCI Rejection button status										
Get	ZZBR	;								
Set	ZZBR	P1	;							
Answer	ZZBR	P1	;							
Notes	P1 = 0 for OFF, 1 for ON.									

ZZBS Command

ZZBS Sets or reads the RX1 Band Switch										
Get	ZZBS	;								
Set	ZZBS	P1	P1	P1	;					
Answer	ZZBS	P1	P1	P1	;					
Notes	P1 values: 160, 080, 060, 040, 030, 020, 017, 015, 012, 010, 006, 002 (when 2 meter transverter is installed), 888 (GEN), and 999 (WWV). VHF P1 values: V01 thru V13. Returns V00 (2M) and V01 (70cm) if VU installed.									

ZZBT Command

ZZBT Sets or reads the RX2 Band Switch										
Get	ZZBT	;								
Set	ZZBT	P1	P1	P1	;					
Answer	ZZBT	P1	P1	P1	;					
Notes	P1 values: 160, 080, 060, 040, 030, 020, 017, 015, 012, 010, 006, 002 (when 2 meter transverter is installed), 888 (GEN), and 999 (WWV). VHF P1 values: V001 thru V013. Returns V00 (2M) and V01 (70cm) if VU installed.									

ZZBU Command

ZZBU Moves the RX1 band switch up one band										
Set	ZZBU	;								
Notes	ZZBU is write-only									

ZZBY Command

ZZBY Closes the console										
Set	ZZBY	;								
Notes	ZZBY is write-only									

ZZCx Commands

ZZCB Command

ZZCB Sets or reads the Break In Enable checkbox status										
Get	ZZCB	;								
Set	ZZCB	P1	;							
Answer	ZZCB	P1	;							
Notes	P1 = 0 for disabled, 1 for enabled.									

ZZCD Command

ZZCD Sets or reads the Break In Delay value										
Get	ZZCD	;								
Set	ZZCD	P1	P1	P1	P1	;				
Answer	ZZCD	P1	P1	P1	P1	;				
Notes	P1 = 0150 to 5000									

ZZCF Command

ZZCF Sets or reads the Show TX CW Frequency checkbox status										
Get	ZZCF	;								
Set	ZZCF	P1	;							
Answer	ZZCF	P1	;							
Notes	P1 = 0 for disabled, 1 for enabled.									

ZZCI Command

ZZCI Sets or reads the CW Iambic checkbox status										
Get	ZZCI	;								
Set	ZZCI	P1	;							
Answer	ZZCI	P1	;							
Notes	P1 = 0 for disabled, 1 for enabled.									

ZZCL Command

ZZCL Sets or reads the CW Pitch (Setup | DSP)										
Get	ZZCL	;								
Set	ZZCL	P1	P1	P1	P1	;				
Answer	ZZCL	P1	P1	P1	P1	;				
Notes	P1 = 0200 to 1200.									

ZZCM Command

ZZCM Sets or reads the CW Monitor checkbox status										
Get	ZZCM	;								
Set	ZZCM	P1	;							
Answer	ZZCM	P1	;							
Notes	P1 = 0 for disabled, 1 for enabled.									

ZZCP Command

ZZCP Sets or reads the Compander (CMP) button status										
Get	ZZCP	;								
Set	ZZCP	P1	;							
Answer	ZZCP	P1	;							
Notes	P1 = 0 for off, 1 for on.									

ZZCS Command

ZZCS Sets or reads the CW Speed										
Get	ZZCS	;								
Set	ZZCS	P1	P1	;						
Answer	ZZCS	P1	P1	;						
Notes	P1 = 01 to 60									

ZZCT Command

ZZCT Sets or reads the Compander Threshold value										
Get	ZZCT	;								
Set	ZZCT	P1	P1	;						
Answer	ZZCT	P1	P1	;						
Notes	P1 = 00 to 10.									

ZZCU Command

ZZCU Reads the CPU Usage										
Get	ZZCU	;								
Set										
Answer	ZZCU	P1	P1	P1	P1	P1	P1	;		
Notes	P1 = 000.00 to 100.00									

ZZDx Commands

ZZDA Command

ZZDA	**Sets or reads the Display Average (AVG) status**									
Get	ZZDA	;								
Set	ZZDA	P1	;							
Answer	ZZDA	P1	;							
Notes	P1 = 0 for off, 1 for on.									

ZZDE Command

ZZDE	**Sets or reads the Enhanced Signal Clarity Form Enable Button (F5K/RX2)**									
Get	ZZDE	;								
Set	ZZDE	P1	;							
Answer	ZZDE	P1	;							
Notes	P1 = 0 for off, 1 for on.									

ZZDF Command

ZZDF	**Opens or closes the Enhanced Signal Clarity Form (F5K/RX2 only)**									
Get	ZZDF	;								
Set	ZZDF	P1	;							
Answer	ZZDF	P1	;							
Notes	P1 = 0 for close 1 for open.									

ZZDM Command

ZZDM	**Sets or reads the Display Mode**									
Get	ZZDM	;								
Set	ZZDM	P1	;							
Answer	ZZDM	P1	;							
Notes	P1 values: 0 = Spectrum 1 = Panadapter 2 = Scope 3 = Phase 4 = Phase2 5 = Waterfall 6 = Histogram 7 = Panafall 8 = Panascope 9 = Off									

ZZDN Command

ZZDN Sets or reads the Waterfall Lo limit (Setup Form)										
Get	ZZDN	;								
Set	ZZDN	P1	P2	P2	P2	;				
Answer	ZZDN	P1	P2	P2	P2	;				
Notes	P1 = + or -, P2 = -200 to +200.									

ZZDO Command

ZZDN Sets or reads the Waterfall Hi limit (Setup Form)										
Get	ZZDO	;								
Set	ZZDO	P1	P2	P2	P2	;				
Answer	ZZD0	P1	P2	P2	P2	;				
Notes	P1 = + or -, P2 = -200 to +200.									

ZZDP Command

ZZDP Sets or reads the Spectrum Grid Maximum setting (Setup Form)										
Get	ZZDP	;								
Set	ZZDP	P1	P2	P2	P2	;				
Answer	ZZDP	P1	P2	P2	P2	;				
Notes	P1 = + or -, P2 = -200 to +200. Note: The Spectrum Grid Min and Max controls interact, you may not be able to set either to the extreme limits.									

ZZDQ Command

ZZDP Sets or reads the Spectrum Grid Minimum setting (Setup Form)										
Get	ZZDQ	;								
Set	ZZDQ	P1	P2	P2	P2	;				
Answer	ZZDQ	P1	P2	P2	P2	;				
Notes	P1 = + or -, P2 = -200 to +200. Note: The Spectrum Grid Min and Max controls interact, you may not be able to set either to the extreme limits.									

ZZDR Command

ZZDR Sets or reads the Spectrum Grid Step Size (Setup Form)										
Get	ZZDR	;								
Set	ZZDR	P1	P1	;						
Answer	ZZDR	P1	P1	;						
Notes	P1 = 01 TO 40.									

ZZDU Command

ZZDU Status Word										
Get	ZZDU	;								
Answer	ZZDU	P1	P2	P3	P4	P5	P6	P7	P8	P9
	P1	P11	P12	P13	P14	P14	P15	P15	P16	P16
	P17	P17	P18	P18	P19	P19	P19	P20	P20	P20
	P21	P21	P21	P22	P22	P22	P23	P23	P23	P24
	P24	P25	P25	P25	P26	P26	P26	P26	P27	P27
	P27	P27	P28	P28	P28	P28	P28	P29	P29	P29
	P29	P29	P30	P30	P30	P30	P30	P31	P31	P31
	P31	P31	P31	P32	P32	P32	P32	P32	P32	P32
	P32	P32	P32	P32	P33	P33	P33	P33	P33	P33
	P33	P33	P33	P33	P33					

Notes

P values:

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P1   VFO A/B TX Button          ZZSW
P2   VFO Split                  ZZSP
P3   TUN Button                 ZZTU
P4   MOX Button                 ZZTX
P5   RX1 Antenna                ZZOA (Note 1)
P6   RX2 Antenna                ZZOB (Note 1)
P7   TX Antenna                 ZZOC (Note 1)
P8   RX2 Enable                 ZZRS (Note 1)
P9   RIT Enable                 ZZRT
P10  Display Mode               ZZDM
P11  AGC Select                 ZZGT
P12  MultiRX Enable             ZZMU
P13  XIT Enable                 ZZXS
P14  Step Size                  ZZAC
P15  RX1 Mode                   ZZMD
P16  RX2 Mode                   ZZME (Note 1)
P17  RX2 DSP Filter             ZZFJ (Note 1)
P18  RX1 DSP Filter             ZZFI
P19  TX Relays                  ZZOF
P20  RX2 Band                   ZZBT (Note 1)
P21  Drive Level                ZZPC
P22  RX1 Band                   ZZBS
P23  Audio Gain                 ZZAG
P24  CW Speed                   ZZKS
P25  Tune Power                 ZZTO
P26  Primary DC Volts           ZZRV (Note 2)
P27  S-Meter Level              ZZSM
P28  RIT Frequency              ZZRF
P29  Temperature Sensor         ZZTS (Note 2)
P30  XIT Frequency              ZZXF
P31  CPU Usage                  ZZCU
P32  VFO A Frequency            ZZFA
P33  VFO B Frequency            ZZFB
```

ZZDU is read-only. Note 1: FLEX5000 only. Note 2: FLEX3000, FLEX5000 only
Parameters are colon-separated. Parameters not applying to the radio model in use return zeros.

ZZDX Command

ZZDX Sets or reads the Phone DX button status										
Get	ZZDX	;								
Set	ZZDX	P1	;							
Answer	ZZDX	P1	;							
Notes	P1 = 0 for off, 1 for on.									

ZZDY Command

ZZDY Sets or reads the Phone DX level										
Get	ZZDY	;								
Set	ZZDY	P1	P1	;						
Answer	ZZDY	P1	P1	;		;				
Notes	P1 = 0 to 10.									

ZZEx Commands

ZZEA Command

ZZEA Sets or reads the RX EQ values										
Get	ZZEA	;								
Set	ZZEA	P1	P1	P1	P2	P2	P2	P3	P3	P3
		P4	P4	P4	P5	P5	P5	P6	P6	P6
		P7	P7	P7	P8	P8	P8	P9	P9	P9
		P10	P10	P10	P11	P11	P11	P12	P12	P12
		;								
Answer	ZZEA	P1	P1	P1	P2	P2	P2	P3	P3	P3
		P4	P4	P4	P5	P5	P5	P6	P6	P6
		P7	P7	P7	P8	P8	P8	P9	P9	P9
		P10	P10	P10	P11	P11	P11	P12	P12	P12
		;								
Notes	P1 = number of EQ bands (003 or 010); P2 = EQ preamp setting (-12 to 015); P3 thru P12 are the setting of each EQ band (-12 to 015). If the number of bands = 003, P6 thru P12 are all zeros.									

ZZEB Command

ZZEB Sets or reads the TX EQ values										
Get	ZZEA	;								
Set	ZZEA	P1	P1	P1	P2	P2	P2	P3	P3	P3
		P4	P4	P4	P5	P5	P5	P6	P6	P6
		P7	P7	P7	P8	P8	P8	P9	P9	P9
		P10	P10	P10	P11	P11	P11	P12	P12	P12
		;								
Answer	ZZEA	P1	P1	P1	P2	P2	P2	P3	P3	P3
		P4	P4	P4	P5	P5	P5	P6	P6	P6
		P7	P7	P7	P8	P8	P8	P9	P9	P9
		P10	P10	P10	P11	P11	P11	P12	P12	P12
		;								
Notes	P1 = number of EQ bands (003 or 010); P2 = EQ preamp setting (-12 to 015); P3 thru P12 are the setting of each EQ band (-12 to 015). If the number of bands = 003, P6 thru P12 are all zeros.									

ZZEM Command

ZZEM Enables or disables CAT verbose error messages										
Get	ZZEM	;								
Set	ZZEM	P1	;							
Answer	ZZEM	See note	;							
Notes	P1: 0 = OFF, 1 = ON. Not fixed length, varies with error message: Prefix Length Error Inactive Command Unknown Command Undefined Command Error Illegal Suffix Format Suffix Length Error Feature Not Available Form Must Be Open									

ZZER Command

ZZER Sets or reads the RX EQ button status										
Get	ZZER	;								
Set	ZZER	P1	;							
Answer	ZZER	P1	;							
Notes	P1: 0 = OFF, 1 = ON									

ZZET Command

ZZET Sets or reads the TX EQ button status										
Get	ZZET	;								
Set	ZZET	P1	;							
Answer	ZZET	P1	;							
Notes	P1: 0 = OFF, 1 = ON									

ZZFx Commands

ZZFA Command

ZZFA Sets or reads VFO A frequency										
Get	ZZFA	;								
Set	ZZFA	P1	P1	P1	P1	P1	P1	P1	P1	P1
		P1	P1	;						
Answer	ZZFA	P1	P1	P1	P1	P1	P1	P1	P1	P1
		P1	P1	;						
Notes	P1 = frequency in Hz (11 digits). Blank digits must be 0. Example: 14,320.150 = 00014320150.									

ZZFB Command

ZZFB Sets or reads VFO B frequency										
Get	ZZFB	;								
Set	ZZFB	P1	P1	P1	P1	P1	P1	P1	P1	P1
		P1	P1	;						
Answer	ZZFB	P1	P1	P1	P1	P1	P1	P1	P1	P1
		P1	P1	;						
Notes	P1 = frequency in Hz (11 digits). Blank digits must be 0. Example: 14,320.150 = 00014320150.									

ZZFD Command

ZZFD Sets or reads FM Deviation Button										
Get	ZZFD	;								
Set	ZZFD	P1	;							
Answer	ZZFD	P1	;		P1		;			
Notes	P1: 0 = 2500 Hz, 1 = 5000 Hz									

ZZFH Command

ZZFH Sets or reads Selected RX1 DSP Filter High										
Get	ZZFH	;								
Set	ZZFH	P1	P1	P1	P1	P1	;			
Answer	ZZFH	P1	P1	P1	P1	P1	;			
Notes	P1 = frequency in Hz -9999 to 09999.									

ZZFI Command

ZZFI Sets or reads the current RX1 DSP receive filter										
Get	ZZFI	;								
Set	ZZFI	P1	P1	;						
Answer	ZZFI	P1	P1	;						

Notes

P1 values:	lsb/usb	digl/digu	am/sam/dsb	cwl/cwu
00	5.0K	3.0K	16K	1.0K
01	4.4K	2.5K	12K	800
02	3.8K	2.0K	10K	750
03	3.3K	1.5K	8.0K	600
04	2.9K	1.0K	6.6K	500
05	2.7K	800	5.2K	400
06	2.4K	600	4.0K	250
07	2.1K	300	3.1K	100
08	1.8K	150	2.9K	50
09	1.0K	75	2.4K	25
10	VAR1	VAR1	VAR1	VAR1
11	VAR2	VAR2	VAR2	VAR2

These are the default values for the receive filters. If you customize your filters, your custom values will be displayed.

ZZFJ Command

ZZFJ Sets or reads the current RX2 DSP receive filter										
Get	ZZFJ	;								
Set	ZZFJ	P1	P1	;						
Answer	ZZFJ	P1	P1	;						
Notes	P1 values:	lsb/usb	digl/digu	am/sam/dsb	cwl/cwu					
	00	5.0K	3.0K	16K	1.0K					
	01	4.4K	2.5K	12K	800					
	02	3.8K	2.0K	10K	750					
	03	3.3K	1.5K	8.0K	600					
	04	2.9K	1.0K	6.6K	500					
	05	2.7K	800	5.2K	400					
	06	2.4K	600	4.0K	250					
	07	*	*	*	*					
	08	*	*	*	*					
	09	*	*	*	*					
	10	VAR1	VAR1	VAR1	VAR1					
	11	VAR2	VAR2	VAR2	VAR2					
	These are the default values for the receive filters. If you customize your filters, your custom values will be displayed. * Not available.									

ZZFL Command

ZZFL Sets or reads Selected RX1 DSP Filter Low										
Get	ZZFL	;								
Set	ZZFL	P1	P1	P1	P1	P1	;			
Answer	ZZFL	P1	P1	P1	P1	P1	;			
Notes	P1 = frequency in Hz -9999 to 09999.									

ZZFM Command

ZZFM Reads the FlexRadio Model Number										
Get	ZZFM	;								
Set										
Answer	ZZFM	P1	;							
Notes	Read only. P1: 0 = SDR1000, 1 = FLEX5000, 2 = FLEX3000, 3 = FLEX1500.									

ZZFR Command

ZZFR Sets or reads Selected RX2 DSP Filter Low										
Get	ZZFR	;								
Set	ZZFR	P1	P1	P1	P1	P1	;			
Answer	ZZFR	P1	P1	P1	P1	P1	;			
Notes	P1 = frequency in Hz -9999 to 09999.									

ZZFS Command

ZZFS Sets or reads Selected RX2 DSP Filter Low										
Get	ZZFS	;								
Set	ZZFS	P1	P1	P1	P1	P1	;			
Answer	ZZFS	P1	P1	P1	P1	P1	;			
Notes	P1 = frequency in Hz -9999 to 09999.									

ZZFV Command

ZZFV Reads single data byte FlexWire data										
Get	ZZFV	P1	P1	P2	P2	;				
	Write only. P1 = 00 – FF , address P2 = 00 – FF, data Case insensitive. Address is returned with data: ZZFV95: returns ZZFV95xx where xx is the data.									

ZZFW Command

ZZFW Reads double data byte FlexWire data										
Get	ZZFW	P1	P1	P2	P2	P3	P3	;		
Notes	Write only. P1 = 00 – FF, address P2 = 00 – FF, data byte 1 P3 = 00 – FF, data byte 2 Case insensitive. Address is returned with data: ZZFW95 returns ZZFW95xxxx; where xxxx is the data.									

ZZFX Command

ZZFX Sends single data byte FlexWire command										
Set	ZZFX	P1	P1	P2	P2	;				
	Write only. P1 = 00 – FF , address P2 = 00 – FF, data Case insensitive									

ZZFY Command

ZZFY Sends double data byte FlexWire command										
Set	ZZFY	P1	P1	P2	P2	P3	P3	;		
Notes	Write only. P1 = 00 – FF, address P2 = 00 – FF, data byte 1 P3 = 00 – FF, data byte 2 Case insensitive									

ZZGx Commands

ZZGE Command

ZZGE Sets or reads the Noise Gate Enable button status										
Get	ZZGE	;								
Set	ZZGE	P1	;							
Answer	ZZGE	P1	;							
Notes	P1 = 0 for disabled, 1 for enabled.									

ZZGL Command

ZZGL Sets or reads the Noise Gate Threshold value										
Get	ZZGL	;								
Set	ZZGL	P1	P1	P1	P1	;				
Answer	ZZGL	P1	P1	P1	P1	;				
Notes	P1 = -160 to 0 (- sign required except for 0000).									

ZZGT Command

ZZGT Sets or reads the AGC thumbwheel control										
Get	ZZGT	;								
Set	ZZGT	P1	;							
Answer	ZZGT	P1	;							
Notes	P1 values: 0 = Fixed 1 = Long 2 = Slow 3 = Med 4 = Fast 5 = Custom									

ZZHx Commands

ZZHA Command

ZZHA Sets or reads Audio Buffer Size										
Get	ZZHA	;								
Set	ZZHA	P1	;							
Answer	ZZHA	P1	;							
Notes	P1: 0 = 256, 1 = 512, 2 = 1024, 3 = 2048, 4 = 4096									

ZZHR Command

ZZHR Sets or reads DSP RX Buffer Phone Size										
Get	ZZHR	;								
Set	ZZHR	P1	;							
Answer	ZZHR	P1	;							
Notes	P1: 0 = 256, 1 = 512, 2 = 1024, 3 = 2048, 4 = 4096									

ZZHT Command

ZZHT Sets or reads DSP TX Buffer Phone Size										
Get	ZZHT	;								
Set	ZZHT	P1	;							
Answer	ZZHT	P1	;							
Notes	P1: 0 = 256, 1 = 512, 2 = 1024, 3 = 2048, 4 = 4096									

ZZHU Command

ZZHU Sets or reads DSP RX Buffer CW Size										
Get	ZZHU	;								
Set	ZZHU	P1	;							
Answer	ZZHU	P1	;							
Notes	P1: 0 = 256, 1 = 512, 2 = 1024, 3 = 2048, 4 = 4096									

ZZHV Command

ZZHV Sets or reads DSP TX Buffer CW Size										
Get	ZZHV	;								
Set	ZZHV	P1	;							
Answer	ZZHV	P1	;							
Notes	P1: 0 = 256, 1 = 512, 2 = 1024, 3 = 2048, 4 = 4096									

ZZHW Command

ZZHW Sets or reads DSP TX Buffer Digital Size										
Get	ZZHW	;								
Set	ZZHW	P1	;							
Answer	ZZHW	P1	;							
Notes	P1: 0 = 256, 1 = 512, 2 = 1024, 3 = 2048, 4 = 4096									

ZZHX Command

ZZHX Sets or reads DSP TX Buffer Digital Size										
Get	ZZHX	;								
Set	ZZHX	P1	;							
Answer	ZZHX	P1	;							
Notes	P1: 0 = 256, 1 = 512, 2 = 1024, 3 = 2048, 4 = 4096									

ZZIx Commands

ZZID Command

ZZID Sets the transceiver identification to FlexRadio										
Get										
Set	ZZID	;								
Answer										
Notes	ZZID is used to remotely force the transceiver id to 900 FlexRadio).									

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ZZIF Command

ZZIF	**Reads the FlexRadio status**									
Get	ZZIF	;								
Set										
Answer	ZZIF	P1	P1	P1	P1	P1	P1	P1	P1	P1
	P1	P1	P2	P2	P2	P2	P3	P3	P3	P3
	P3	P3	P4	P5	P6	P7	P7	P8	P9	P9
	P10	P11	P12	P13	P14	P14	P15	;		
Notes	P1 (11 characters) VFO A frequency in Hz. Same as FA; P2 (4 characters) Frequency step size expressed in powers of 10 (see ZZST). P3 (6 characters) RIT/XIT frequency (+nnnnn or –nnnnn). P4 (1 character) RIT status. 0 = off, 1 = on. P5 (1 character) XIT status. 0 = off, 1 = on. P6 (1 character) Channel bank number. Not used, defaulted to 0. P7 (2 characters) Channel bank number. Not used, defaulted to 00. P8 (1 character) MOX button status. 0 = off, 1 = on (transmitting). P9 (2 character) Operating mode. See ZZMD for settings. P10 (1 character) VFO Split status. Same as FR (always 0). P11 (1 character) Scan status. Not implemented, defaulted to 0. P12 (1 character) VFO Split status. Same as ZZSP. P13 (1 character) CTCSS tone. Not used, defaulted to 0. P14 (2 characters) More tone controls. Not used, defaulted to 00. P15 (1 character) Shift status. Not used, defaulted to 0. Due to limitations in the space available, P2 will only report step sizes through 12.5 KHz (ZZAC12). P2 will report 1111 (indeterminate step) for anything above 12.5 KHz.									

ZZIO Command

ZZIO	**Reads the installed options**									
Get	ZZIO	;								
Answer	ZZIS	P1	P2	P3	;					
Notes	P1,2,3 1 = installed, 0 = not available P1 = ATU, P2 = RX2, P3 = VU									

ZZIS Command

ZZIS	**Sets or reads the variable filter width slider**									
Get	ZZIS	;								
Set	ZZIS	P1	P1	P1	P1	P1	;			
Answer	ZZIS	P1	P1	P1	P1	P1	;			
Notes	P1 = 00000 to 10000.									

ZZIT Command

ZZIT	**Sets or reads the variable filter shift slider**									
Get	ZZIT	;								
Set	ZZIT	P1	P2	P2	P2	P2	;			
Answer	ZZIT	P1	P2	P2	P2	P2	;			
Notes	P1 = "+" or "-" P2 = 0000 to 1000 (-1000 to +1000)									

ZZIU Command

ZZIU	**Resets the variable filter shift slider**									
Get										
Set	ZZIU	;								
Answer							;			
Notes	Write only									

ZZKx Commands

ZZKM Command

ZZKM	**Sends CWX Macro**									
Set	ZZKM	P1	;							
Notes	P1 = 1 to 9. ZZKM is write only									

ZZKO Command

ZZKO	**Opens or closes the CWX form**									
Get	ZZKO	;								
Set	ZZKO	P1	;							
Answer	ZZKO	P1	;							
Notes	P1 : Open = 1, Close = 0									

ZZKS Command

ZZKS	**Sets or reads the CWX CW speed**									
Get	ZZKS	;								
Set	ZZKS	P1	P1	P1	;					
Answer	ZZKS	P1	P1	P1	;					
Notes	P1 = 001 to 099 in WPM.									

ZZKY Command

ZZKY	**Sends text to CWX for conversion to Morse**									
Get	ZZKY	;								
Set	ZZKY	P1	P2	P2	P2	P2	P2	P2	P2	P2
	P2	P2	P2	P2	P2	P2	P2	P2	P2	P2
	P2	P2	P2	P2	P2	P2	;			
Answer	ZZKY	P1	;							
Notes	Get: P1 0 = Character buffer available, 1 = Character buffer not available (>72 characters left in buffer), 2 = buffer is empty and all code has been sent. Set: P1 = space, P2 up to 24 ASCII printing characters. . Empty character positions in P2 must contain a space.									

ZZLx Commands

ZZLA Command

ZZLA	**Sets or reads the RX0 (main receiver) Gain (MultiRX Group Controls)**									
Get	ZZLA	;								
Set	ZZLA	P1	P1	P1	;					
Answer	ZZLA	P1	P1	P1	;					
Notes	P1 = 000 to 100.									

ZZLB Command

ZZLB	**Sets or reads the RX0 Stereo Balance (MultiRX Group Controls)**									
Get	ZZLB	;								
Set	ZZLB	P1	P1	P1	;					
Answer	ZZLB	P1	P1	P1	;					
Notes	P1 = 000 to 100 (50 = center).									

ZZLC Command

ZZLC	**Sets or reads the RX1 (subreceiver) Gain (MultiRX Group Controls)**									
Get	ZZLC	;								
Set	ZZLC	P1	P1	P1	;					
Answer	ZZLC	P1	P1	P1	;					
Notes	P1 = 000 to 100.									

ZZLD Command

ZZLD Sets or reads the RX1 Stereo Balance (MultiRX Group Controls)										
Get	ZZLD	;								
Set	ZZLD	P1	P1	P1	;					
Answer	ZZLD	P1	P1	P1	;					
Notes	P1 = 000 to 100 (50 = center).									

ZZLE Command

ZZLE Sets or reads the RX2 Audio Gain										
Get	ZZLE	;								
Set	ZZLE	P1	P1	P1	;					
Answer	ZZLE	P1	P1	P1	;					
Notes	P1 = 000 to 100 (50 = center).									

ZZLF Command

ZZLF Sets or reads the RX2 Stereo Balance										
Get	ZZLF	;								
Set	ZZLF	P1	P1	P1	;					
Answer	ZZLF	P1	P1	P1	;					
Notes	P1 = 000 to 100 (50 = center).									

ZZLG Command

ZZLG Sets or reads the AutoMuteRX1onVFOBTX checkbox (F5K Only)										
Get	ZZLG	;								
Set	ZZLG	P1	;							
Answer	ZZLG	P1	;							
Notes	P1: 0 = OFF, 1 = ON									

ZZLH Command

ZZLH Sets or reads the AutoMuteRX2onVFOATX checkbox (F5K Only)										
Get	ZZLH	;								
Set	ZZLH	P1	;							
Answer	ZZLH	P1	;							
Notes	P1: 0 = OFF, 1 = ON									

ZZMx Commands

ZZMA Command

ZZMA	**Sets or reads the RX1 Mute (MUT) status**									
Get	ZZMA	;								
Set	ZZMA	P1	;							
Answer	ZZMA	P1	;							
Notes	P1 = 0 for off, 1 for on. See ZZMB notes.									

ZZMB Command

ZZMB	**Sets or reads the RX2 Mute (MUT) status (FLEX5000/RX2 ONLY)**									
Get	ZZMB	;								
Set	ZZMB	P1	;							
Answer	ZZMB	P1	;							
Notes	P1 = 0 for off, 1 for on. Note: When RX1 is muted, either with ZZMA or the MUT button, both RX1 and RX2 are muted. Under the current code version, you cannot mute RX1 and have RX2 audio output.									

ZZMD Command

ZZMD	**Sets or reads the RX1 Operating Mode**									
Get	ZZMD	;								
Set	ZZMD	P1	P1	;						
Answer	ZZMD	P1	P1	;						
Notes	P1 values: 00 = LSB 01 = USB 02 = DSB 03 = CWL 04 = CWU 05 = FM 06 = AM 07 = DIGU 08 = SPEC 09 = DIGL 10 = SAM 11 = DRM									

ZZME Command

ZZME	**Sets or reads the RX2 Operating Mode**									
Get	ZZME	;								
Set	ZZME	P1	P1	;						
Answer	ZZME	P1	P1	;						
Notes	P1 values: 00 = LSB 01 = USB 02 = DSB 03 = CWL 04 = CWU 05 = FM 06 = AM 07 = DIGU 08 = SPEC 09 = DIGL 10 = SAM 11 = DRM									

ZZMG Command

ZZMG	**Sets or reads the Mic gain**									
Get	ZZMG	;								
Set	ZZMG	P1	P1	P1	;					
Answer	ZZMG	P1	P1	P1	;					
Notes	P1 = 000 to 070									

ZZML Command

ZZML	Returns the list of DSP Modes and Indexes									
Get	ZZML	;								
Answer	ZZML	P1	P1	P1	P1	P2	P2	P3		
		P1	P1	P2	P1	P2	P2	P3		
		P1	P1	P1	P1	P2	P2	P3		
		P1	P1	P1	P1	P2	P2	P3		
		P1	P1	P1	P1	P2	P2	P3		
		P1	P1	P1	P1	P2	P2	P3		
		P1	P1	P1	P1	P2	P2	P3		
		P1	P1	P1	P1	P2	P2	P3		
		P1	P1	P1	P1	P2	P2	P3		
		P1	P1	P1	P1	P2	P2	P3		
		P1	P1	P1	P1	P2	P2	P3		
		P1	P1	P1	P1	P2	P2	P3	;	
Notes	P1 = right justified mode name; P2 = mode index(00 to 12), P3 = colon as a separator. Example: ZZML LSB00: USB01:….:DIGL09:…etc.									

ZZMN Command

ZZMN	Reads the DSP Filter names and values									
Get	ZZMN	P1	P1	;						
Answer	ZZMN	See below								
Notes	P1 Values: The two-digit mode code (See ZZMD) The return string is 180 characters long, 12 groups of 15 characters each representing all the names and high/low values for each filter contained in the mode requested. The 15 character groups are broken down into subgroups of five characters: 1-5 are is name of the filter button, 6-10 is the high filter value, and 11-15 is the low filter value. Example: 5.0k 5150 –160 4.8k 4950 –160…;. Filter names are truncated to 5 characters.									

ZZMO Command

ZZMO	Sets or reads the Monitor (MON) status									
Get	ZZMO	;								
Set	ZZMO	P1	;							
Answer	ZZMO	P1	;							
Notes	P1: 0 = OFF, 1 = ON									

ZZMR Command

ZZMR	**Sets or reads the RX Meter mode**									
Get	ZZMR	;								
Set	ZZMR	P1	;							
Answer	ZZMR	P1	;							
Notes	P1 Values: 0 = Signal Strength 1 = Signal Average 2 = ADC L 3 = ADC R 4 = Off									

ZZMS Command

ZZMS	**Sets or reads the MultiRX Swap checkbox**									
Get	ZZMS	;								
Set	ZZMS	P1	;							
Answer	ZZMS	P1	;							
Notes	P1: 0 = OFF, 1 = ON									

ZZMT Command

ZZMT	**Sets or reads the TX Meter mode**									
Get	ZZMT	;								
Set	ZZMT	P1	P1	;						
Answer	ZZMT	P1	P1	;						
Notes	P1 Values: 00 = Forward Power 01 = Reverse Power 02 = Mic 03 = EQ 04 = Leveler 05 = Lev Gain 06 = COMP 07 = CPDR 08 = ALC 09 = ALC COMP 10 = SWR 11 = Off									

ZZMU Command

ZZMU Sets or reads the MultiRX button status										
Get	ZZMU	;								
Set	ZZMU	P1	;							
Answer	ZZMU	P1	;							
Notes	P1: 0 = OFF, 1 = ON									

ZZMV Command

ZZMV Gets the count of memory channels programmed										
Get	ZZMV	;								
Notes	P1: 001 to 999; Read Only. See ZZMY for numbering scheme.									

ZZMWCommand

ZZMW Deletes a memory channel by channel number										
Set	ZZMW	P1	P1	P1	;					
Notes	P1: 001 to 999; Write Only. **No warning is given**. See ZZMY for numbering scheme.									

ZZMX Command

ZZMX Restores a memory channel by channel number										
Set	ZZMX	P1	P1	P1	;					
Notes	P1: 001 to 999; Write Only. See ZZMY for numbering scheme.									

ZZMY Command

ZZMY Stores radio memory configuration to a new channel										
Set	ZZMY	;								
Notes	Write Only. Memory channel numbers are assigned sequentially from 001 to 999. Channel numbers are stored in the Comments cell as a three digit number followed by a colon, e.g. 003:. The user may add any text after the colon as comments. A deleted channel number is not reused unless it is the highest number assigned.									

ZZMZ Command

ZZMZ Stores radio memory configuration to an existing channel										
Set	ZZMZ	P1	P1	P1	;					
Notes	P1: 001 to 999; Write Only. An edit method. Typical use would be to recall a memory channel, change some parameters, and save the changes to the same channel number. **Destroys the only record and write the new one without warning.**									

ZZNx Commands

ZZNA Command

ZZNA	**Sets or reads the Noise Blanker (NB) status**									
Get	ZZNA	;								
Set	ZZNA	P1	;							
Answer	ZZNA	P1	;							
Notes	P1 = 0 for off, 1 for on.									

ZZNB Command

ZZNB	**Sets or reads the Noise Blanker 2 (NB2) status**									
Get	ZZNB	;								
Set	ZZNB	P1	;							
Answer	ZZNB	P1	;							
Notes	P1 = 0 for off, 1 for on.									

ZZNC Command

ZZNC	**Sets or reads RX2 Noise Blanker (1) (F5K/RX2 only)**									
Get	ZZNC	;								
Set	ZZNC	P1	;							
Answer	ZZNC	P1	;							
Notes	P1 = 0 for off, 1 for on.									

ZZND Command

ZZND	**Sets or reads RX2 Noise Blanker (2) (F5K/RX2 only)**									
Get	ZZND	;								
Set	ZZND	P1	;							
Answer	ZZND	P1	;							
Notes	P1 = 0 for off, 1 for on.									

ZZNL Command

ZZNL	**Sets or reads the Noise Blanker 1 threshold (Setup DSP tab)**									
Get	ZZNL	;								
Set	ZZNL	P1	P1	P1	;					
Answer	ZZNL	P1	P1	P1	;					
Notes	P1 = 001 to 200.									

ZZNM Command

ZZNM	**Sets or reads the Noise Blanker 2 threshold**									
Get	ZZNM	;								
Set	ZZNM	P1	P1	P1	P1	;				
Answer	ZZNM	P1	P1	P1	P1	;				
Notes	P1 = 0001 to 1000.									

ZZNR Command

ZZNR	**Sets or reads the Noise Reduction (NR) status**									
Get	ZZNR	;								
Set	ZZNR	P1	;							
Answer	ZZNR	P1	;							
Notes	P1 = 0 for off, 1 for on.									

ZZNT Command

ZZNT	**Sets or reads the Auto Notch Filter (ANF) status**									
Get	ZZNT	;								
Set	ZZNT	P1	;							
Answer	ZZNT	P1	;							
Notes	P1 = 0 for off, 1 for on.									

ZZOx Commands

ZZOA Command

ZZOA	**Sets or reads the antenna connected to RX1 (FLEX5000/FLEX1500 only)**									
Get	ZZOA	;								
Set	ZZOA	P1	;							
Answer	ZZOA	P1	;							
Notes	P1 Values F5K: 0 = N/C, 1 = Ant1, 2 = Ant2, 3 = Ant3, 4 = RX1 In. P1 Values F1500: 0 = PA, 1 = XVTX_COM, 2 = XVRX.									

ZZOB Command

ZZOB	**Sets or reads the antenna connected to RX2 (FLEX5000 only)**									
Get	ZZOB	;								
Set	ZZOB	P1	;							
Answer	ZZ0B	P1	;							
Notes	P1 Values: 0 = N/C, 1 = Ant1, 5 = RX2In, 6 = RX1Tap									

ZZOC Command

ZZOC	**Sets or reads the transmitter antenna (FLEX5000/FLEX1500 only)**									
Get	ZZOC	;								
Set	ZZOC	P1	;							
Answer	ZZ0C	P1	;							
Notes	P1 Values F5K: 1 = Ant1, 2 = Ant2, 3 = Ant3. P1 Values F1500: 1 = PA, 2 = XVTX/COM.									

ZZOD Command

ZZOD	**Sets or reads the current antenna mode (FLEX5000/F1500 only)**									
Get	ZZOD	;								
Set	ZZOD	P1	;							
Answer	ZZ0D	P1	;							
Notes	P1 Values: 0 = Simple, 1 = Complex									

ZZOE Command

ZZOE	**Sets or reads the RX1 loop (FLEX5000 only)**									
Get	ZZOE	;								
Set	ZZOE	P1	;							
Answer	ZZ0E	P1	;							
Notes	P1 Values: 0 = Loop Disabled, 1 = Loop Enabled									

ZZOF Command

ZZOF	**Sets or reads the TX relays energized on transmit (FLEX5000/F1500 only)**									
Get	ZZOF	;								
Set	ZZOF	P1	P2	P3	;					
Answer	ZZ0F	P1	P2	P3	;					
Notes	F5K P1 = RCATX1, P2 = RCATX2, P3 = RCATX3. 1 = Enabled, 0 = Disabled, all positions must be represented: ZZOF010 = TX2 enabled, TX1 and TX2 disabled. ZZOF111 = all enabled, ZZOF000 = all disabled. F1500 P1: FlexWire PTT Out 0 = disabled, 1 = enabled. Command must be sent with three characters: ZZOF100 or ZZOF000.									

ZZOG Command

ZZOG Sets or reads the TX relay delays enabled on transmit (FLEX5000/F1500 only)										
Get	ZZOG	;								
Set	ZZOG	P1	P2	P3	;					
Answer	ZZ0G	P1	P2	P3	;					
Notes	F5K P1 = TX1, P2 = TX2, P3 = TX3. 1 = Enabled, 0 = Disabled, all positions must be represented: ZZOG010 = TX2 enabled, TX1 and TX2 disabled. ZZOG111 = all enabled, ZZOG000 = all disabled. F1500 P1: FlexWire PTT Out Delay 0 = disabled, 1 = enabled. Command must be sent with three characters: ZZOG100 or ZZOG000.									

ZZOH Command

ZZOH Sets or reads the TX relay delay times (FLEX5000/F1500 only)										
Get	ZZOH	P1	;							
Set	ZZOH	P1	P2	P2	P2	P2	;			
Answer	ZZ0H	P1	P2	P2	P2	P2	;			
Notes	F5K P1 = TX relay number, P2 = delay in milliseconds. Example: ZZOH20100 Sets relay 2 to 100 ms. Delay range must be 0000 to 9999. F1500 P1 = 1, P2 same as F5K.									

ZZOJ Command

ZZOJ Sets or reads the Antenna Lock Checkbox (FLEX5000/F1500 Only)										
Get	ZZOJ	;								
Set	ZZOJ	P1	;							
Answer	ZZOJ	P1	;							
Notes	P1 = 0 for off, 1 for on.									

ZZOS Commands

ZZOS Sets or reads the FM Offset Direction										
Get	ZZOS	;								
Set	ZZOS	P1	;							
Answer	ZZ0S	P1	;							
Notes	P1: 0 = Simplex, 1 = High, 2 = Low									

ZZOT Commands

ZZOT Sets or reads the FM Repeater Offset Frequency										
Get	ZZOT	;								
Set	ZZOT	P1	P1	P1	P1	P1	P1	P1	P1	P1;
Answer	ZZ0T	P1	P1	P1	P1	P1	P1	P1	P1	P1;
Notes	P1 = 000000000 to 999999999 Hz. 001000000 = 1.0 MHz, 000600000 = 600 KHz. Must have leading zeros.									

ZZOL Commands

ZZOL Sets or reads the DigL Click Tune Offset										
Get	ZZOL	;								
Set	ZZOL	P1	P1	P1	P1	;				
Answer	ZZ0L	P1	P1	P1	P1	;				
Notes	P1 = 0000 to 9999									

ZZOU Command

ZZOU Sets or reads the DigU Click Tune Offset										
Get	ZZOU	;								
Set	ZZOU	P1	P1	P1	P1	;				
Answer	ZZ0U	P1	P1	P1	P1	;				
Notes	P1 = 0000 to 9999									

ZZOV Command

ZZOV Sets or reads ATU Enable Button (when ATU equipped)										
Get	ZZOV	;								
Set	ZZOV	P1	;							
Answer	ZZ0V	P1	;							
Notes	P1: 0 = Off, 1 = On. Sending a "1" to ZZOV is the same as sending a "0" to ZZOW (ATU bypass).									

ZZOW Command

ZZOW Sets or reads ATU Bypass Button (when ATU equipped)										
Get	ZZOW	;								
Set	ZZOW	P1	;							
Answer	ZZOW	P1	;							
Notes	P1: 0 = Off, 1 = On. Sending a "0" to ZZOW is the same as sending a "1" to ZZOV (ATU Enabled and will cause the ATU to tune).									

ZZPx Commands

ZZPA Command

ZZPA	**Sets or reads the Preamplifier (Preamp) setting**									
Get	ZZPA	;								
Set	ZZPA	P1	;							
Answer	ZZPA	P1	;							
Notes	P1 values; SDR-1000 FLEX5000x FLEX3000 FLEX1500 0 = Off 0 = Off 0 = Attn 0 = -10 1 = Low 1 = On 1 = Off 1 = 0 2 = Med 2 = Pre1[1] 2 = +10 3 = High 3 = Pre2[1] 3 = +20 4 = +30 [1] If TRX board less than Rev G, both Pre1 and Pre2 available above 2 MHz, neither available below 2 MHz. If TRX board Rev G or higher, neither available below 7 MHZ, Pre1 available above 7 MHz but below 13 MHz, and both available above 13 MHz.									

ZZPB Command

ZZPB	**Sets or reads RX2 Preamp status (F5K/RX2 only)**									
Get	ZZPB	;								
Set	ZZPB	P1	;							
Answer	ZZPB	P1	;							
Notes	P1 = 0 for off, 1 for on.									

ZZPC Command

ZZPC	**Sets or reads the PA Drive level**									
Get	ZZPC	;								
Set	ZZPC	P1	P1	P1	;					
Answer	ZZPC	P1	P1	P1	;					
Notes	P1 = 000 to 100									

ZZPD Command

ZZPD	**Sets the Display Pan Center button**									
Set	ZZPD	;								
Notes	Write-only									

ZZPE Command

ZZPE Sets or reads the Display Pan Position										
Get	ZZPE	;								
Set	ZZPE	P1	P1	P1	P1	;				
Answer	ZZPE	P1	P1	P1	P1	;				
Notes	P1 = 0000 to 1000									

ZZPO Command

ZZPO Sets or reads the Display Peak button										
Get	ZZPO	;								
Set	ZZPO	P1	;							
Answer	ZZPO	P1	;							
Notes	P1 = 0 for Off, 1 for On									

ZZPS Command

ZZPS Sets or reads the Start button										
Get	ZZPS	;								
Set	ZZPS	P1	;							
Answer	ZZPS	P1	;							
Notes	P1 = 0 for Off, 1 for On									

ZZPY Command

ZZPY Sets or reads the Display Zoom slider										
Get	ZZPY	;								
Set	ZZPY	P1	P1	P1	;					
Answer	ZZPZ	P1	P1	P1	;					
Notes	P1: 010 (minimum zoom) to 240 (maximum zoom)									

ZZPZ Command

ZZPZ Sets or reads the Display Zoom buttons										
Get	ZZPZ	;								
Set	ZZPZ	P1	;							
Answer	ZZPZ	P1	;							
Notes	P1: 0 = 0.5X, 1 = 1X, 2 = 2X, 3 = 4X									

ZZQx Commands

ZZQM Command

ZZQM Reads the Quick Save Memory value										
Get	ZZQM	;								
Set										
Answer	ZZQM	P1	P1	P1	P1	P1	P1	P1	P1	P1
		P1	P1	;						
Notes	P1 = frequency in Hz (11 digits). Example: 14,320.150 = 00014320150.									

ZZQR Command

ZZQR Restores the Quick Save Memory (QR)										
Get										
Set	ZZQR	;								
Answer										
Notes	ZZQR is write-only									

ZZQS Command

ZZQS Saves Frequency A, Band, and Mode to Quick Memory										
Set	ZZQS	;								
Notes	Write-only									

ZZRx Commands

ZZRA Command

ZZRA Sets or reads the RTTY Offset Enable VFO A status										
Get	ZZRA	;								
Set	ZZRA	P1	;							
Answer	ZZRA	P1	;							
Notes	P1 = 0 for Off, 1 for On									

ZZRB Command

ZZRB Sets or reads the RTTY Offset Enable VFO B status										
Get	ZZRB	;								
Set	ZZRB	P1	;							
Answer	ZZRB	P1	;							
Notes	P1 = 0 for Off, 1 for On									

ZZRC Command

ZZRC Clears the RIT frequency										
Set	ZZRC	;								
Notes	Write-only									

ZZRD Command

ZZRD Decrements the RIT Frequency										
Get	ZZRD	;								
Set	ZZRD	P1	P1	P1	P1	P1	;			
Answer										
Notes	ZZRD without parameters decrements the RIT frequency by 10 Hz in CW and 50 Hz in SSB. P1 (00000 – 99999) will set the RIT Frequency (also see ZZRF). Answer is always blank or an error message.									

ZZRF Command

ZZRF Sets or reads the RIT frequency										
Get	ZZRF;									
Set	ZZRF	P1	P2	P2	P2	P2	;			
Answer	ZZRF	P1	P2	P2	P2	P2	;			
Notes	P1 = polarity (+ or -) P2 = frequency in Hz.									

ZZRH Command

ZZRH Sets or reads the RTTY DIGH Offset Frequency										
Get	ZZRH;									
Set	ZZRH	P1	P2	P2	P2	P2	;			
Answer	ZZRH	P1	P2	P2	P2	P2	;			
Notes	P1 = polarity (+ or -) P2 = frequency in Hz.									

ZZRL Command

ZZRL Sets or reads the RTTY DIGL Offset Frequency										
Get	ZZRL;									
Set	ZZRL	P1	P2	P2	P2	P2	;			
Answer	ZZRL	P1	P2	P2	P2	P2	;			
Notes	P1 = polarity (+ or -) P2 = frequency in Hz.									

ZZRM Command

ZZRM Reads the Console meter values										
Get	ZZRM	P1	;							
Set										
Answer	ZZRM	P1	P2	P2	P2	P2	P2	P2	P2	P2
	P2	P2	P2	P2	P2	P2	P2	P2	P2	P2
	P2	P2	;							
Notes	P1 Values: 0 = Signal Strength 1 = Average Strength 2 = ADC_L 3 = ADC_R 4 = ALC 5 = Forward Power 6 = Peak Power no longer used, will return "?;" 7 = Reverse Power 8 = SWR P2 is padded left with spaces. ZZRM is read-only. SWR only works in TUN.									

ZZRS Command

ZZRS Sets or reads the RX2 enable button status										
Get	ZZRS	;								
Set	ZZRS	P1	;							
Answer	ZZRS	P1	;							
Notes	P1 = 0 for Off, 1 for On									

ZZRT Command

ZZRT Sets or reads the RIT enable button status										
Get	ZZRT	;								
Set	ZZRT	P1	;							
Answer	ZZRT	P1	;							
Notes	P1 = 0 for Off, 1 for On									

ZZRU Command

ZZRU Increments the RIT Frequency										
Get	ZZRU	;								
Set	ZZRU	P1	P1	P1	P1	P1	;			
Answer										
Notes	ZZRU without parameters increments the RIT frequency by 10 Hz in CW and 50 Hz in SSB. P1 (00000 – 99999) will set the RIT Frequency (also see ZZRF). Answer is always blank or an error message.									

ZZRV Command

ZZRV Reads the primary input voltage										
Get	ZZRV	;								
Answer	ZZRV	P1	P1	P1	P1					
Notes	Read-only; returns nn.n									

ZZSx Commands

ZZSA Command

ZZSA Moves VFO A down one Tune Step										
Set	ZZSA	;								
Notes	Write-only									

ZZSB Command

ZZSB Moves VFO A up one Tune Step										
Set	ZZSB	;								
Notes	Write-only									

ZZSD Command

ZZSD Decrements the Tune Step										
Set	ZZSD	;								
Notes	Write-only									

ZZSF Command

ZZSF Sets the variable filter width and center (KD5TFD filters)										
Get										
Set	ZZSF	P1	P1	P1	P1	P2	P2	P2	P2	;
Answer										
Notes	P1 = center frequency in Hz. P2 = width in Hz. ZZSF is write-only.									

ZZSG Command

ZZSG Moves VFO B down one Tune Step										
Set	ZZSG	;								
Notes	Write-only									

ZZSH Command

ZZSH Moves VFO B up one Tune Step										
Set	ZZSH	;								
Notes	Write-only									

ZZSM Command

ZZSM Reads the S-Meter										
Get	ZZSM	P1	;							
Set										
Answer	ZZSM	P1	P2	P2	P2	;				
Notes	P1: 0 = RX1, 1 = RX2 P2 = 000 to 260 ZZSM does not actually read the S Meter, it reads the signal strength in dBm. S9 = -73 dBm. Each increment of ZZSM is approximately equal to 0.5 dBm. The range of the reading is -140 dBm to -10 dBm, a 130 dBm range with a scale factor of 2 (P2 max = 260). Use ZZSM/2 – 140 to get the actual RX signal strength in dBm.									

ZZSN Command

ZZSN Reads the radio serial number										
Get	ZZSN	;								
Answer	ZZSN	P1	P1	P1	P2	P1	P1	P1	P1	P1
Notes	P1 Example: ZZSN2105-3456 ZZSN is read only.									

ZZSO Command

ZZSO Sets or reads the Squelch on/off status										
Get	ZZSO	;								
Set	ZZSO	P1	;							
Answer	ZZSO	P1	;							
Notes	P1 = 0 for off, 1 for on.									

ZZSP Command

ZZSP Sets or reads the VFO Split (SPLT) status										
Get	ZZSP	;								
Set	ZZSP	P1	;							
Answer	ZZSP	P1	;							
Notes	P1 = 0 for off, 1 for on.									

ZZSQ Command

ZZSQ Sets or reads the Squelch control										
Get	ZZSQ	;								
Set	ZZSQ	P1	P1	P1	;					
Answer	ZZSQ	P1	P1	P1	;					
Notes	P1: 000 to 160 except FM mode 000 to 100.									

ZZSR Command

ZZSR Sets or reads the Spur Reduction button status										
Get	ZZSR	;								
Set	ZZSR	P1	;							
Answer	ZZSR	P1	;							
Notes	P1 = 0 for OFF, 1 for ON.									

ZZSS Command

ZZSS Stops CWX sending (immediate)										
Set	ZZSS	;								
Notes	Write only									

ZZST Command

ZZST Reads the frequency step size (Deprecated, use ZZAC for new designs)										
Get	ZZST	;								
Set										
Answer	ZZST	P1	P1	P1	P1	;				
Notes	P1 values are expressed in BCD powers of 10 except for non-decade frequencies: 0000 = 10e0 = 1 Hz 0001 = 10e1 = 10 Hz 1000 = special default for 50 Hz 0010 = 10e2 = 100 Hz 1001 = special default for 250 Hz 1010 = special default for 500 Hz 0011 = 10e3 = 1 kHz 1011 = special default for 5 kHz 1100 = special default for 9 kHz 0100 = 10e4 = 10 kHz 0101 = 10e5 = 100 kHz 0110 = 10e6 = 1 MHz 0111 = 10e7 = 10 MHz ZZST is read-only.									

ZZSU Command

ZZSU Increments the Tune Step										
Set	ZZSU	;								
Notes	Write-only									

ZZSV Command

ZZSV Sets or reads the RX2 Squelch button										
Get	ZZSV	;								
Set	ZZSV	P1	;							
Answer	ZZSV	P1	;							
Notes	P1: 0 = Off, 1 = On.									

ZZSW Command

ZZSW Sets or reads the VFO A TX/VFO B TX Buttons										
Get	ZZSW	;								
Set	ZZSW	P1	;							
Answer	ZZSW	P1	;							
Notes	P1: 0 set VFO A to TX, 1 sets VFO B to TX. ZZSW transmits status if Kenwood AI enabled.									

ZZSY Command

ZZSY Sets or reads the VFO Sync Button										
Get	ZZSY	;								
Set	ZZSY	P1	;							
Answer	ZZSY	P1	;							
Notes	P1: 0 = VFO Sync off; 1 = VFO Sync on.									

ZZSX Command

ZZSX Sets or reads the RX2 Squelch Threshold										
Get	ZZSX	;								
Set	ZZSX	P1	P1	P1	;					
Answer	ZZSX	P1	P1	P1	;					
Notes	P1: 000 to 160 except FM mode 000 to 100.									

ZZSZ Command

ZZSZ Syncs VFO A or B to the current step size										
Set	ZZSZ	P1	;							
Notes	P1: 0 = VFO A, 1 = VFO B. Example: if VFO A frequency is 14,123.123 and the step size is 10 Hz, ZZSZ0; will set VFO A to 14,123.130.									

ZZTx Commands

ZZTA Command

ZZTA Sets or reads the CTCSS Enable Button										
Get	ZZTA	;								
Set	ZZTA	P1	;							
Answer	ZZTA	P1	;							
Notes	P1 = 0 for disabled, 1 for enabled.									

ZZTB Command

ZZTB Sets or reads the CTCSS Tone Frequency										
Get	ZZTB	;								
Set	ZZTB	P1	P1	;						
Answer	ZZTB	P1	P1	;						
Notes	P1: 01 = 67.0 02 = 69.3 03 = 71.9 04 = 74.4 05 = 77.0 06 = 79.7 07 = 82.5 08 = 85.4 09 = 88.5 10 = 91.5 11 = 94.8 12 = 97.4 13 = 100.0 14 = 103.5 15 = 107.2 16 = 110.9 17 = 114.8 18 = 118.8 19 = 123.0 20 = 127.3 21 = 131.8 22 = 136.5 23 = 141.3 24 = 146.2 25 = 151.4 26 = 156.7 27 = 159.8 28 = 162.2 29 = 165.5 30 = 167.9 31 = 171.3 32 = 173.8 33 = 177.3 34 = 179.9 35 = 183.5 36 = 186.2 37 = 189.9 38 = 192.8 39 = 199.5 40 = 203.5 41 = 206.5 42 = 210.7 43 = 218.1 44 = 225.7 45 = 229.1 46 = 233.6 47 = 241.8 48 = 250.3 49 = 254.1									

ZZTF Command

ZZTF Sets or reads the Show TX Filter checkbox status										
Get	ZZTF	;								
Set	ZZTF	P1	;							
Answer	ZZTF	P1	;							
Notes	P1 = 0 for disabled, 1 for enabled.									

ZZTH Command

ZZTH Sets or reads the TX Filter High setting										
Get	ZZTH	;								
Set	ZZTH	P1	P1	P1	P1	P1	;			
Answer	ZZTH	P1	P1	P1	P1	P1	;			
Notes	P1 = 00500 to 20000.									

ZZTI Command

ZZTI Transmit Inhibit										
Set	ZZTI	P1	;							
Notes	P1: 1 = Transmit Inhibited, 0 = Transmit Enabled. You must follow a ZZTI1 with a ZZTI0 to re-enable the transmitter.									

ZZTL Command

ZZTL Sets or reads the TX Filter Low setting										
Get	ZZTL	;								
Set	ZZTL	P1	P1	P1	P1	;				
Answer	ZZTL	P1	P1	P1	P1	;				
Notes	P1 = 0000 to 2000.									

ZZTM Command

ZZTM Sets or reads the TX AF Monitor										
Get	ZZTM	;								
Set	ZZTM	P1	P1	P1	;					
Answer	ZZTM	P1	P1	P1	;					
Notes	P1 = 000 to 100.									

ZZTO Command

ZZTO Sets or reads the TUN power setting										
Get	ZZTO	;								
Set	ZZTO	P1	P1	P1	;					
Answer	ZZTO	P1	P1	P1	;					
Notes	P1 = 000 to 100.									

ZZTP Command

ZZTP Sets or reads the Transmit Profile										
Get	ZZTP	;								
Set	ZZTP	P1	P1	;						
Answer	ZZTP	P1	P1	;						
Notes	P1: 00 = Conventional 01 = DX/Contest 02 = ESSB 03 = AM Above only correct if no custom profiles saved. P1 is equal to the index value of the profile name in the Transmit Profile drop down list.									

ZZTS Command

ZZTS Reads the FLEX5000 Temperature Sensor										
Get	ZZTS	;								
Answer	ZZTS	P1	P1	P1	P1	P1	;			
Notes	P1 = two places below 100 degrees, one place above 100 degrees: 28.92 or 103.1.									

ZZTU Command

ZZTU Sets or reads the Tune (TUN) status										
Get	ZZTU	;								
Set	ZZTU	P1	;							
Answer	ZZTU	P1	;							
Notes	P1 = 0 for off, 1 for on. Console power must be on for TUN to function.									

ZZTV Command

ZZTV Sets or reads the transmit VFO frequency when RX2 enabled										
Get	ZZTV	;								
Set	ZZTV	P1	P1	P1	P1	P1	P1	P1	P1	P1
		P1	P1	;						
Answer	ZZTV	P1	P1	P1	P1	P1	P1	P1	P1	P1
		P1	P1	;						
Notes	P1 = frequency in Hz (11 digits). Blank digits must be 0. Example: 14,320.150 = 00014320150. Only works when RX2 enabled and Split or MultiRX modes selected. F5K only.									

ZZTX Command

ZZTX Sets or reads the MOX button status										
Get	ZZTX	;								
Set	ZZTX	P1	;							
Answer	ZZTX	P1	;							
Notes	P1 = 0 for off, 1 for on.									

ZZUx Commands

ZZUA Command

ZZUA Reads the XVTR Band Button Names										
Get	ZZUA	;								
Answer	ZZUA	P1	P1	P1	P1	P1	P2	P2	P2	P2
	P2	P3	P3	P3	P3	P3	P4	P4	P4	P4
	P4	P5	P5	P5	P5	P5	P6	P6	P6	P6
	P6	P7	P7	P7	P7	P7	P8	P8	P8	P8
	P8	P9	P9	P9	P9	P9	P10	P10	P10	P10
	P10	P11	P11	P11	P11	P11	P12	P12	P12	P12
	P12	P13	P13	P13	P13	P13	P14	P14	P14	P14
	P14	;								
Notes	P1 thru P14 equal exactly 70 character spaces and must contain either an ASCII character or a space. Each group of five characters contains the name of the corresponding n-1 XVTR button name: P1 = button 0.									

ZZVx Commands

ZZVA Command

ZZVA Sets or reads the VAC1 button status										
Get	ZZVA	;								
Set	ZZVA	P1	;							
Answer	ZZVA	P1	;							
Notes	P1 = 0 for OFF, 1 for ON.									

ZZVB Command

ZZVB Sets or reads the VAC1 RX Gain										
Get	ZZVB	;								
Set	ZZVB	P1	P1	P1	;					
Answer	ZZVB	P1	P1	P1	;					
Notes	P1 = -40 to +40 (positive values must lead with sign or “0”									

ZZVC Command

ZZVC Sets or reads the VAC1 TX Gain										
Get	ZZVC	;								
Set	ZZVC	P1	P1	P1	;					
Answer	ZZVC	P1	P1	P1	;					
Notes	P1 = -40 TO +40 (positive value must lead with sign or "0"									

ZZVD Command

ZZVD Sets or reads the VAC1 Sample Rate										
Get	ZZVD	;								
Set	ZZVD	P1	;							
Answer	ZZVD	P1	;							
Notes	P1 : 0 = 6000 1 = 8000 2 = 11025 3 = 12000 4 = 24000 5 = 22050 6 = 44100 7 = 48000 8 = 96000 9 = 192000									

ZZVE Command

ZZVE Sets or reads the VOX button status										
Get	ZZVE	;								
Set	ZZVE	P1	;							
Answer	ZZVE	P1	;							
Notes	P1 = 0 for OFF, 1 for ON.									

ZZVF Command

ZZVF Sets or reads the VAC1 Stereo button status										
Get	ZZVF	;								
Set	ZZVF	P1	;							
Answer	ZZVF	P1	;							
Notes	P1 = 0 for OFF, 1 for ON.									

ZZVG Command

ZZVG Sets or reads the VOX Gain value										
Get	ZZVG	;								
Set	ZZVG	P1	P1	P1	P1	;				
Answer	ZZVG	P1	P1	P1	P1	;				
Notes	P1 = 0000 to 1000.									

ZZVH Command

ZZVH Sets or reads the I/Q TO VAC1 Checkbox										
Get	ZZVH	;								
Set	ZZVH	P1	;							
Answer	ZZVH	P1	;							
Notes	P1 = 0 for OFF, 1 for ON.									

ZZVI Command

ZZVI Sets or reads the VAC1 Input Cable										
Get	ZZVI	;								
Set	ZZVI	P1	P1	;						
Answer	ZZVI	P1	P1	;						
Notes	P1 = 00 to 99, actual input cable depends on VAC driver selected									

ZZVJ Command

ZZVJ Sets or reads the IQ to VAC1 Use RX2 Checkbox										
Get	ZZVJ	;								
Set	ZZVJ	P1	;							
Answer	ZZVJ	P1	;							
Notes	P1 = 0 for OFF, 1 for ON. ZZVH must be set before ZZVJ will work.									

ZZVK Command

ZZVK Sets or reads the VAC2 enable status										
Get	ZZVK	;								
Set	ZZVK	P1	;							
Answer	ZZVK	P1	;							
Notes	P1 = 0 for OFF, 1 for ON.									

ZZVL Command

ZZVL Sets or reads the VFO Lock status										
Get	ZZVL	;								
Set	ZZVL	P1	;							
Answer	ZZVL	P1	;							
Notes	P1 = 0 for off, 1 for on.									

ZZVM Command

ZZVM Sets or reads the VAC1 Driver										
Get	ZZVM	;								
Set	ZZVM	P1	P1	;						
Answer	ZZVM	P1	P1	;						
Notes	P1 = 00 to 99. When you change driver you must reset the I/O cables									

ZZVN Command

ZZVN Reads the PowerSDR software version number										
Get	ZZVN	;								
Set										
Answer	ZZVN	P1	;							
Notes	Returns ZZVN001.3.14.0; twelve total characters including decimal points.									

ZZVO Command

ZZVO Sets or reads the VAC1 Output Cable										
Get	ZZVO	;								
Set	ZZVO	P1	P1	;						
Answer	ZZVO	P1	P1	;						
Notes	P1 = 00 to 99, actual output cable depends on VAC driver selected									

ZZVP Command

ZZVP Sets or reads the VAC1 IQ Calibrate Checkbox										
Get	ZZVP	;								
Set	ZZVP	P1	;							
Answer	ZZVP	P1	;							
Notes	P1 = 0 for off, 1 for on.									

ZZVQ Command

ZZVQ Sets or reads the VAC2 Driver										
Get	ZZVQ	;								
Set	ZZVQ	P1	P1	;						
Answer	ZZVQ	P1	P1	;						
Notes	P1 = 00 to 99. When you change driver you must reset the I/O cables									

ZZVR Command

ZZVR Sets or reads the VAC2 Input Cable										
Get	ZZVR	;								
Set	ZZVR	P1	P1	;						
Answer	ZZVR	P1	P1	;						
Notes	P1 = 00 to 99, actual input cable depends on VAC driver selected									

ZZVS Command

ZZVS Sets the VFO Swap status										
Get										
Set	ZZVS	P1	;							
Answer										
Notes	P1 values: 0 = A>B 1 = A<B 2 = A<>B ZZVS is write-only.									

ZZVT Command

ZZVT Sets or reads the VAC2 Output Cable										
Get	ZZVT	;								
Set	ZZVT	P1	P1	;						
Answer	ZZVT	P1	P1	;						
Notes	P1 = 00 to 99, actual output cable depends on VAC driver selected									

ZZVU Command

ZZVU Sets or reads the VAC1 Sample Rate										
Get	ZZVU	;								
Set	ZZVU	P1	;							
Answer	ZZVU	P1	;							
Notes	P1 : 0 = 6000 1 = 8000 2 = 11025 3 = 12000 4 = 24000 5 = 22050 6 = 44100 7 = 48000 8 = 96000 9 = 192000									

ZZVV Command

ZZVV Sets or reads the VAC2 Stereo button status										
Get	ZZVV	;								
Set	ZZVV	P1	;							
Answer	ZZVV	P1	;							
Notes	P1 = 0 for OFF, 1 for ON.									

ZZVW Command

ZZVW Sets or reads the VAC2 RX Gain										
Get	ZZVW	;								
Set	ZZVW	P1	P1	P1	;					
Answer	ZZVW	P1	P1	P1	;					
Notes	P1 = -40 to +40 (positive values must lead with sign or “0”									

ZZVX Command

ZZVX Sets or reads the VAC2 TX Gain										
Get	ZZVX	;								
Set	ZZVX	P1	P1	P1	;					
Answer	ZZVX	P1	P1	P1	;					
Notes	P1 = -40 TO +40 (positive value must lead with sign or “0”									

ZZVY Command

ZZVY Sets or reads the VAC1 Buffer Size										
Get	ZZVY	;								
Set	ZZVY	P1	;							
Answer	ZZVY	P1	;							
Notes	P1 : 0 = 512 1 = 1024 2 = 2048									

ZZVZ Command

ZZVY Sets or reads the VAC2 Buffer Size										
Get	ZZVZ	;								
Set	ZZVZ	P1	;							
Answer	ZZVZ	P1	;							
Notes	P1 : 0 = 512 1 = 1024 2 = 2048									

ZZWx Commands

ZZWA Command

ZZWA Sets or reads the F5K Mixer Mic Level										
Get	ZZWA	;								
Set	ZZWA	P1	P2	P2	P2	;				
Answer	ZZWA	P1	P2	P2	P2	;				
Notes	P1 = polarity (+ or -) P2 = +000 to -128									

ZZWB Command

ZZWB Sets or reads the F5K Mixer Line In RCA Level										
Get	ZZWB	;								
Set	ZZWB	P1	P2	P2	P2	;				
Answer	ZZWB	P1	P2	P2	P2	;				
Notes	P1 = polarity (+ or -) P2 = +000 to -128									

ZZWC Command

ZZWC Sets or reads the F5K Mixer Line In Phono Level										
Get	ZZWC	;								
Set	ZZWC	P1	P2	P2	P2	;				
Answer	ZZWC	P1	P2	P2	P2	;				
Notes	P1 = polarity (+ or -) P2 = +000 to -128									

ZZWD Command

ZZWD Sets or reads the F5K Mixer Line In DB9 Level										
Get	ZZWD	;								
Set	ZZWD	P1	P2	P2	P2	;				
Answer	ZZWD	P1	P2	P2	P2	;				
Notes	P1 = polarity (+ or -) P2 = +000 to -128									

ZZWE Command

ZZWE Sets or reads the F1500/F5K Mixer Mic Select Checkbox										
Get	ZZWE	;								
Set	ZZWE	P1	;							
Answer	ZZWE	P1	;							
Notes	P1: 0 = Off, 1 = On. Note: The F1500 Mic and FlexWire mixer inputs are mutually exclusive, i.e., only one can (and must) be enabled. Use only P1 = 1 for the F1500, P1 = 0 is not valid. See ZZWH. Set one or the other.									

ZZWF Command

ZZWF Sets or reads the F5K Mixer Line In RCA Select Checkbox										
Get	ZZWF	;								
Set	ZZWF	P1	;							
Answer	ZZWF	P1	;							
Notes	P1: 0 = Off, 1 = On.									

ZZWG Command

ZZWG Sets or reads the F5K Bal Line In Select Checkbox										
Get	ZZWG	;								
Set	ZZWG	P1	;							
Answer	ZZWG	P1	;							
Notes	P1: 0 = Off, 1 = On.									

ZZWH Command

ZZWH Sets or reads the F1500/F5K FlexWire/Mixer Line In DB9 Select Checkbox										
Get	ZZWH	;								
Set	ZZWH	P1	;							
Answer	ZZWH	P1	;							
Notes	P1: 0 = Off, 1 = On. The F1500 Mic and FlexWire mixer inputs are mutually exclusive, i.e., only one can (and must) be enabled. Use only P1 = 1 for the F1500, P1 = 0 is not valid. See ZZWE. Set one or the other.									

ZZWJ Command

ZZWJ Sets or reads the F1500/F5K Mixer Input Mute All Button										
Get	ZZWJ	;								
Set	ZZWJ	P1	;							
Answer	ZZWJ	P1	;							
Notes	P1: 0 = Off, 1 = On.									

ZZWK Command

ZZWK Sets or reads the F5000C Mixer Internal Speaker Level										
Get	ZZWK	;								
Set	ZZWK	P1	P1	P1	;					
Answer	ZZWK	P1	P1	P1	;					
Notes	P1 = 128 TO 255 Only valid with FLEX5000C +									

ZZWL Command

ZZWL Sets or reads the F5K Mixer External Speaker Level										
Get	ZZWL	;								
Set	ZZWL	P1	P1	P1	;					
Answer	ZZWL	P1	P1	P1	;					
Notes	P1 = 128 TO 255									

ZZWM Command

ZZWM Sets or reads the F5K Mixer Headphone Level										
Get	ZZWM	;								
Set	ZZWM	P1	P1	P1	;					
Answer	ZZWM	P1	P1	P1	;					
Notes	P1 = 128 TO 255									

ZZWN Command

ZZWN Sets or reads the F5K Mixer Line Out RCA Level										
Get	ZZWN	;								
Set	ZZWN	P1	P1	P1	;					
Answer	ZZWN	P1	P1	P1	;					
Notes	P1 = 128 TO 255									

ZZWO Command

ZZWO Sets or reads the F5K Mixer Internal Speaker Select Checkbox										
Get	ZZWO	;								
Set	ZZWO	P1	;							
Answer	ZZWO	P1	;							
Notes	P1: 0 = Off, 1 = On. Only valid with FLEX5000C +									

ZZWP Command

ZZWP Sets or reads the F5K Mixer External Speaker Select Checkbox										
Get	ZZWP	;								
Set	ZZWP	P1	;							
Answer	ZZWP	P1	;							
Notes	P1: 0 = Off, 1 = On.									

ZZWQ Command

ZZWQ Sets or reads the F1500/F5K Mixer Headphone Select Checkbox										
Get	ZZWQ	;								
Set	ZZWQ	P1	;							
Answer	ZZWQ	P1	;							
Notes	P1: 0 = Off, 1 = On.									

ZZWR Command

ZZWR Sets or reads the F1500/F5K Mixer FlexWire/Line Out RCA Select Checkbox										
Get	ZZWR	;								
Set	ZZWR	P1	;							
Answer	ZZWR	P1	;							
Notes	P1: 0 = Off, 1 = On.									

ZZWS Command

ZZWS Sets or reads the F1500/F5K Mixer Output Mute All Button										
Get	ZZWS	;								
Set	ZZWS	P1	;							
Answer	ZZWS	P1	;							
Notes	P1: 0 = Off, 1 = On.									

ZZWT Command

ZZWT Sets or reads the F1500 Mixer Mic Level										
Get	ZZWT	;								
Set	ZZWT	P1	P1	P1	;					
Answer	ZZWT	P1	P1	P1	;					
Notes	P1 = 000 to 119									

ZZWU Command

ZZWU Sets or reads the F1500 Mixer FlexWire Input Level										
Get	ZZWU	;								
Set	ZZWU	P1	P1	P1	;					
Answer	ZZWU	P1	P1	P1	;					
Notes	P1 = 000 to 119									

ZZWV Command

ZZWV Sets or reads the F1500 Phones Out Level										
Get	ZZWV	;								
Set	ZZWV	P1	P1	P1	;					
Answer	ZZWV	P1	P1	P1	/					
Notes	P1 = 000 to 127									

ZZWW Command

ZZWW Sets or reads the F1500 Mixer FlexWire Out Level										
Get	ZZWW	;								
Set	ZZWW	P1	P1	P1	;					
Answer	ZZWW	P1	P1	P1	/					
Notes	P1 = 000 to 127									

ZZXx Commands

ZZXC Command

ZZXC Clears the XIT frequency (XIT[0])										
Set	ZZXC	;								
Notes	ZZXC is write-only.									

ZZXF Command

ZZXF Sets or reads the XIT frequency										
Get	ZZXF	;								
Set	ZZXF	P1	P2	P2	P2	P2	;			
Answer	ZZXF	P1	P2	P2	P2	P2	;			
Notes	P1 = polarity (+ or -) P2 = frequency in Hz.									

ZZXS Command

ZZXS Sets or reads the XIT enable button										
Get	ZZXS	;								
Set	ZZXS	P1	;							
Answer	ZZXS	P1	;							
Notes	P1: 0 = Off, 1 = On.									

ZZXT Command

ZZXT Sets or reads the External Control (X2TR) button status										
Get	ZZXT	;								
Set	ZZXT	P1	;							
Answer	ZZXT	P1	;							
Notes	P1 = 0 for OFF, 1 for ON.									

ZZYx Commands

ZZYA Command

ZZYA Sets or reads the VAC2 Direct IQ Checkbox										
Get	ZZYA	;								
Set	ZZYA	P1	;							
Answer	ZZYA	P1	;							
Notes	P1 = 0 for OFF, 1 for ON.									

ZZYB Command

ZZYB Sets or reads the VAC2 IQ Calibrate Checkbox										
Get	ZZYB	;								
Set	ZZYB	P1	;							
Answer	ZZYB	P1	;							
Notes	P1 = 0 for OFF, 1 for ON.									

ZZYC Command

ZZYB Sets or reads the FM Mic Gain										
Get	ZZYC	;								
Set	ZZYB	P1	P1	;						
Answer	ZZYB	P1	P1	;						
Notes	P1 = 0 to 70									

ZZZx Commands

ZZZB Command

ZZZB Clicks the Zero Beat (0 Beat) button										
Set	ZZZB	;								
Notes	Write-only.									

Kenwood Compatible Command Syntax

AG Command

AG Sets or reads the AF Gain thumbwheel control										
Get	AG	P1	;							
Set	AG	P1	P2	P2	P2	;				
Answer	AG	P1	P2	P2	P2	;				
Notes	P1 = 0 for main transceiver, 1 for future sub receiver. P2 = 000 to 255 (scaled 0 to 100 in software). A Set value of 127 = 50 on the AF Gain thumbwheel. Also see ZZAG.									

AI Command

AI Sets or reads the Auto Information function										
Get	AI	;								
Set	AI	P1	;							
Answer	AI	P1	:							
Notes	P1 = 0 for Off, 1 or more for On. When On, the radio will broadcast the VFO (A or B) frequency when changed. Option checkbox on the Setup/CAT tab must be checked to allow this command.									

BD Command

BD Moves the transceiver down one band										
Get										
Set	BD	;								
Answer										
Notes	BD is write-only									

BU Command

BU Moves the transceiver up one band										
Get										
Set	BU	;								
Answer										
Notes	BU is write-only									

CN Command

CN Sets or reads the CTCSS Tone Frequency										
Get	CN	;								
Set	CN	P1	P1	;						
Answer	CN	P1	P1	;						
Notes	P1: 01 = 67.0 02 = 69.3 03 = 71.9 04 = 74.4 05 = 77.0 06 = 79.7 07 = 82.5 08 = 85.4 09 = 88.5 10 = 91.5 11 = 94.8 12 = 97.4 13 = 100.0 14 = 103.5 15 = 107.2 16 = 110.9 17 = 114.8 18 = 188.8 19 = 123.0 20 = 127.3 21 = 131.8 22 = 136.5 23 = 141.3 24 = 146.2 25 = 151.4 26 = 156.7 27 = 159.8 28 = 162.2 29 = 165.5 30 = 167.9 31 = 171.3 32 = 173.8 33 = 177.3 34 = 179.9 35 = 183.5 36 = 186.2 37 = 189.9 38 = 192.8 39 = 199.5 40 = 203.5 41 = 206.5 42 = 210.7 43 = 218.1 44 = 225.7 45 = 229.1 46 = 233.6 47 = 241.8 48 = 250.3 49 = 254.1									

CT Command

CT Sets or reads the CTCSS Enable Button										
Get	CT	;								
Set	CT	P1	;							
Answer	CT	P1	;							
Notes	P1 = 0 for disabled, 1 for enabled.									

DN Command

DN Moves VFO A down by the increment set in step size										
Get										
Set	DN	;								
Answer										
Notes	DN is write-only									

FA Command

FA Sets or reads VFO A frequency										
Get	FA	;								
Set	FA	P1	P1	P1	P1	P1	P1	P1	P1	P1
		P1	P1	;						
Answer	FA	P1	P1	P1	P1	P1	P1	P1	P1	P1
		P1	P1	;						
Notes	P1 = frequency in Hz (11 digits). Blank digits must be 0. Example: 14,320.150 = 00014320150.									

FB Command

FB Sets or reads VFO B frequency										
Get	FB	;								
Set	FB	P1	P1	P1	P1	P1	P1	P1	P1	P1
		P1	P1	;						
Answer	FB	P1	P1	P1	P1	P1	P1	P1	P1	P1
		P1	P1	;						
Notes	P1 = frequency in Hz (11 digits). Blank digits must be 0. Example: 14,320.150 = 00014320150.									

FR Command

FR Sets or reads the transceiver receive VFO										
Get	FR	;								
Set	FR	P1	;							
Answer	FR	P1	;							
Notes	Added for third-party compatibility. P1 = 0 since the FlexRadio VFO A is always the receive VFO.									

FT Command

FT Sets or reads the transceiver transmit VFO										
Get	FT	;								
Set	FT	P1	;							
Answer	FT	P1	;							
Notes	P1 = 0 for VFO A, 1 for VFO B.									

FW Command

FW Sets or reads the DSP receive filter width (obsolete 4/4/2007, not active)										
Get	FW	;								
Set	FW	P1	P1	P1	P1	;				
Answer	FW	P1	P1	P1	P1	;				
Notes	FW only accepts FlexRadio filter widths. See ZZFI for values.									

GT Command

GT Sets or reads the AGC time constant thumbwheel control										
Get	GT	;								
Set	GT	P1	P1	P1	;					
Answer	GT	P1	P1	P1	;					
Notes	P1: Fixed = 000, Long = 001, Slow = 002, Med = 003, 004 = Fast, 005 = Custom.									

ID Command

ID Reads the transceiver ID number										
Get	ID	;								
Set										
Answer	ID	P1	P1	P1	;					
Notes	P1 defaults to 019 (TS-2000). The FlexRadio id code (900) may be selected remotely using ZZID. ID is read-only.									

IF Command

IF Reads the transceiver status										
Get	IF	;								
Set										
Answer	IF	P1	P1	P1	P1	P1	P1	P1	P1	P1
	P1	P1	P2	P2	P2	P2	P3	P3	P3	P3
	P3	P3	P4	P5	P6	P7	P7	P8	P9	P10
	P11	P12	P13	P14	P14	P15	;			
Notes	P1 (11 characters) VFO A frequency in Hz. Same as FA; P2 (4 characters) Frequency step size expressed in powers of 10 (see ZZST). P3 (6 characters) RIT/XIT frequency (+nnnnn or –nnnnn). P4 (1 character) RIT status. 0 = off, 1 = on. P5 (1 character) XIT status. 0 = off, 1 = on. P6 (1 character) Channel bank number. Not used, defaulted to 0. P7 (2 characters) Channel bank number. Not used, defaulted to 00. P8 (1 character) MOX button status. 0 = off, 1 = on (transmitting). P9 (1 character) Operating mode. See MD for settings. P10 (1 character) VFO Split status. Same as FR (always 0). P11 (1 character) Scan status. Not implemented, defaulted to 0. P12 (1 character) VFO Split status. Same as FT. P13 (1 character) CTCSS tone. Not used, defaulted to 0. P14 (2 characters) More tone controls. Not used, defaulted to 00. P15 (1 character) Shift status. Not used, defaulted to 0. Due to limitations in the space available, P2 will only report step sizes through 12.5 KHz (ZZAC12). P2 will report 1111 (indeterminate step) for anything above 12.5 KHz. P9 will return a space if a non-Kenwood mode is selected on the FlexRadio.									

KS Command

KS Sets or reads CWX CW speed										
Get	KS	;								
Set	KS	P1	P1	P1	;					
Answer	KS	P1	P1	P1	l					
Notes	P1 010 – 060 in WPM									

KY Command

KY Sends text to CWX for conversion to Morse										
Get	KY	;								
Set	KY	P1	P2	P2	P2	P2	P2	P2	P2	P2
	P2	P2	P2	P2	P2	P2	P2	P2	P2	P2
	P2	P2	P2	P2	P2	P2	;			
Answer	KY	P1	;							
Notes	Get: P1 0 = Character buffer available, 1 = Character buffer not available (> 72 characters in the buffer). Set: P1 = space, P2 up to 24 ASCII printing characters. Empty character positions in P2 must contain a space.									

MD Command

MD Sets or reads the transceiver operating mode										
Get	MD	;								
Set	MD	P1	;							
Answer	MD	P1	;							
Notes	P1 values: 1 = LSB 2 = USB 3 = CWU 4 = FM 5 = AM 6 = RTTY (DIGL) 7 = CWL 9 = FSK-R (DIGU)									

MG Command

MG Sets or reads the Microphone Gain thumbwheel control										
Get	MG	;								
Set	MG	P1	P1	P1	;					
Answer	MG	P1	P1	P1	;					
Notes	P1 = 000 to 100.									

MO Command

MO Sets or reads the Monitor (MON) status										
Get	MO	;								
Set	MO	P1	;							
Answer	MO	P1	;							
Notes	P1 = 0 for off, 1 for on.									

NB Command

NB Sets or reads the Noise Blanker 1 (NB1) status										
Get	NB	;								
Set	NB	P1	;							
Answer	NB	P1	;							
Notes	P1 = 0 for off, 1 for on.									

NT Command

NT Sets or reads the Automatic Notch Filter (ANF) status										
Get	NT	;								
Set	NT	P1	;							
Answer	NT	P1	;							
Notes	P1 = 0 for off, 1 for on.									

OF Commands

OF Sets or reads the FM Repeater Offset Frequency										
Get	OF	;								
Set	OF	P1	P1	P1	P1	P1	P1	P1	P1	P1;
Answer	OF	P1	P1	P1	P1	P1	P1	P1	P1	P1;
Notes	P1 = 000000000 to 999999999 Hz. 001000000 = 1.0 MHz, 000600000 = 600 KHz. Must have leading zeros.									

OS Commands

OS Sets or reads the FM Offset Direction										
Get	OS	;								
Set	OS	P1	;							
Answer	0S	P1	;							
Notes	P1: 0 = Simplex, 1 = High, 2 = Low									

PC Command

PC	**Sets or reads the PA Power (PWR) status**									
Get	PC	;								
Set	PC	P1	P1	P1	;					
Answer	PC	P1	P1	P1	;					
Notes	P1 = 000 to 100.									

PR Command

PR	**Reads the Speech Compressor (COMP) status (Non-functional)**									
Get	PR	;								
Answer	PR	P1	;							
Notes	P1 = 0 For HRD compatibility only, does not change radio.									

PS Command

PS	**Sets or reads the Power Button status**									
Get	PS	;								
Set	PS	P1	;							
Answer	PS	P1	;							
Notes	P1: 0 = Standby, 1 = On.									

QI Command

QI	**Sets the Quick Save memory (QS)**									
Get										
Set	QI	;								
Answer										
Notes	QI is write-only.									

RC Command

RC	**Clears the RIT frequency (RIT[0])**									
Get										
Set	RC	;								
Answer										
Notes	RC is write-only.									

RD Command

RD Decrements the RIT Frequency										
Get	RD	;								
Set	RD	P1	P1	P1	P1	P1	;			
Answer										
Notes	RD without parameters decrements the RIT frequency by 10 Hz in CW and 50 Hz in SSB. P1 (00000 – 99999) will set the RIT Frequency (also see ZZRF). Answer is always blank or an error message.									

RT Command

RT Sets or reads the RIT button status										
Get	RT	;								
Set	RT	P1	;							
Answer	RT	P1	;							
Notes	P1 = 0 for off, 1 for on.									

RU Command

RU Increments the RIT Frequency										
Get	RU	;								
Set	RU	P1	P1	P1	P1	P1	;			
Answer										
Notes	RD without parameters increments the RIT frequency by 10 Hz in CW and 50 Hz in SSB. P1 (00000 – 99999) will set the RIT Frequency (also see ZZRF). Answer is always blank or an error message.									

RX Command

RX Sets the transceiver to Receive mode (MOX off)										
Get										
Set	RX	;								
Answer										
Notes	RX is write-only.									

SH Command

SH Sets or reads the variable DSP Filter high frequency										
Get	SH	;								
Set	SH	P1	P1	;						
Answer	SH	P1	P1	;						
Notes	SSB Modes (USB, LSB, CWU and CWL) in Hz 00 = 1400 01 = 1600 02 = 1800 03 = 2000 04 = 2200 05 = 2400 06 = 2600 07 = 2800 08 = 3000 09 = 3400 10 = 4000 11 = 5000 DSB Modes (AM, DSB, FM, DRM, SAM) 00 = 2500 01 = 3000 02 = 4000 03 = 5000 SH has no effect in RTTY, PSK, or SPEC.									

SL Command

SL Sets or reads the variable DSP filter low frequency										
Get	SL	;								
Set	SL	P1	P1	;						
Answer	SL	P1	P1	;						
Notes	SSB Modes (USB, LSB, CWU and CWL) in Hz 00 = 0 01 = 50 02 = 100 03 = 200 04 = 300 05 = 400 06 = 500 07 = 600 08 = 700 09 = 800 10 = 900 11 = 1000 DSB Modes (AM, DSB, FM, DRM, SAM) 00 = 0 01 = 100 02 = 200 03 = 500 SL has no effect in RTTY, PSK, or SPEC.									

SM Command

SM Reads the S-Meter										
Get	SM	P1	;							
Set										
Answer	SM	P1	P2	P2	P2	P2	;			
Notes	P1 = 0 for main transceiver. P2 = 0000 to 0030 where 0015 = S9. Current code needs improvement for readings above S9. SM is read-only.									

SQ Command

SQ	**Sets or reads the Squelch (SQL) thumbwheel control**									
Get	SQ	P1	;							
Set	SQ	P1	P2	P2	P2	;				
Answer	SQ	P1	P2	P2	P2	;				
Notes	P1 = 0 for main transceiver. P2 = 000 to 255 (scaled in software to 0 – 160, SQ0127; = 80 on the control.									

TX Command

TX	**Sets the transceiver to Transmit mode (MOX on)**									
Get										
Set	TX	;								
Answer										
Notes	TX is write-only. Not totally compatible with Kenwood but is modified to maintain compatibility with third-party software.									

UP Command

UP	**Moves VFO A up by the increment set in step size**									
Get										
Set	UP	;								
Answer										
Notes	UP is write-only									

XT Command

XT	**Sets or reads the XIT status**									
Get	XT	;								
Set	XT	P1	;							
Answer	XT	P1	;							
Notes	P1 = 0 for off, 1 for on.									

FlexRadio CAT Command Reference Guide Revision Record

Revisions for 2006

January 3, 2006 Revisions:

Corrected typo in MD.
Changed ZZMD to reflect DIGU and DIGL.
Added ZZTH and ZZTL commands.

Revisions for 2007

February 25, 2007 Revisions

Added DN and UP commands.
Added special codes in ZZST for new console step size frequencies.
Corrected various typos.

March 20, 2007 Revisions:

Added:	ZZAR	AGC RF GAIN
	ZZBR	BCI REJECTION
	ZZCB	BREAK IN ENABLE
	ZZCD	BREAK IN DELAY
	ZZCF	SHOW CW TX FREQ
	ZZCI	IAMBIC ON/OFF
	ZZCM	CW MONITOR ON/OFF
	ZZCT	COMPANDER THRESHOLD VALUE
	ZZGE	NOISE GATE ENABLE BUTTON
	ZZGL	NOISE GATE LEVEL VALUE
	ZZSR	SPUR REDUCTION ON/OFF
	ZZTF	SHOW TX FILTER
	ZZVA	VAC ON/OFF
	ZZVE	VOX ENABLE
	ZZVG	VOX GAIN VALUE
	ZZXT	X2TR ON/OFF

Updated: ZZFI (DSP Rx Filters) to reflect current console values. (Dictionary update only, no change to CAT code).

April 4, 2007 Revisions:

Updated:	GT	AGC Gain
	ZZIU	Filter Slider
	ZZMT	TX Meter Functions
Obsolete:	FW	DSP Filter Width

August 25, 2007 Revisions:

Updated	MD	Added MD9 for DigU
Added	KY	Send Morse
	KS	Get/Set Morse speed

September 16, 2007 Changes:

Updated	GT	Added 005 for "Custom"
	ZZIF	Removed P1 to match IF
	ZZMT	Added new meter functions
	ZZPA	Added FLEX5000 values
	ZZVS	Added IF -> V

Added:

ZZBD	Moves the bandswitch down one band
ZZBU	Moves the bandswitch up one band
ZZER	Sets or reads the RXEQ button status
ZZET	Sets or reads the TXEQ button status
ZZFA	Sets or reads VFO A
ZZFB	Sets or reads VFO B
ZZKS	Sets or reads CWX CW speed
ZZKY	Sends text to CWX for conversion to Morse
ZZMG	Sets or reads the Mic gain
ZZMO	Sets or reads the Monitor (MON) button status
ZZMS	Sets or reads the MultiRX swap checkbox status
ZZMT	Sets or reads the TX Meter mode
ZZMU	Sets or reads the MultiRX button status
ZZNA	Sets or reads Noise Blanker 1 button status
ZZNT	Sets or reads the Auto Notch Filter button status
ZZPC	Sets or reads the Drive level
ZZPD	Sets the Display Pan Center button
ZZPK	Sets or reads the Compressor (COMP) button status

ZZPL	Sets or reads the Compressor Threshold
ZZPA	Sets or reads the Preamp gain
ZZPO	Sets or reads the Display Peak button status
ZZPS	Sets or reads the Power button status
ZZPZ	Sets or reads the Display Zoom buttons
ZZQS	Saves the quick save memory value
ZZRC	Clears the RIT frequency
ZZRT	Sets or reads the RIT button status
ZZSA	Moves VFO A down one Tune Step
ZZSB	Moves VFO A up one Tune Step
ZZSD	Moves the mouse wheel tuning step down
ZZSU	Moves the mouse wheel tuning step up
ZZTP	Sets or reads the TX Profile
ZZTX	Sets or reads the MOX button status
ZZXS	Sets or reads the XIT button status
ZZZB	Zero beats the current signal

September 26, 2007 Changes:

Added	ZZFH	Set TX Filter High
	ZZFL	Set TX Filter Low

Corrected minor typos.

October 18, 2007 Changes:

Added	ZZHA	Sets/reads Audio Buffer Size
	ZZHR	Sets/reads DSP RX Buffer Size
	ZZHT	Sets/reads DSP TX Buffer Size

October 20, 2007 Changes:

Added:	ZZFM	Reads the FlexRadio Model Number.

October 23, 2007 Changes:

Added	ZZEA	Reads or sets the RX EQ
	ZZEB	Reads or sets the TX EQ

October 25, 2007 Changes:

Corrected duplicate.	ZZFL/ZZFH now read DSP Filter Hi/Lo

ZZTL/ZZTH still read TX Filter Hi/Lo

October 31, 2007 Changes:

Added	ZZVB	Reads or sets the VAC RX Gain
	ZZVC	Reads or sets the VAC TX Gain
	ZZVD	Reads or sets the VAC Sample Rate
	ZZVF	Reads or sets the VAC Stereo button

November 21, 2007 Changes:

Added:	ZZUA	Reads the XVTR Band Button Names
Changed:	ZZBS	Added VHF XVTR band buttons to command.

November 29, 2007 Changes:

Added:	ZZOA	Reads or sets the antenna connected to RX1
	ZZOB	Reads or sets the antenna connected to RX2
	ZZOC	Reads or sets the antenna connected to the transmitter
	ZZOD	Reads or sets the current antenna mode
	ZZOE	Reads or sets the RX1 Loop
	ZZOF	Reads or sets the RCA TX relay jacks
	ZZMN	Reads the DSP filter names and values

December 4, 2007 Changes:

Added	AI	Reads or sets the Auto Information function
	ZZAI	Same as above

December 12, 2007 Changes:

Modified:	KY	KY1 represents >72 characters in the buffer
	ZZKY	Added KY2: buffer empty and all chars sent

Revisions for 2008

January 16, 2008 Changes:

Added	ZZDX	Sets or reads the Phone DX button status

February 13, 2008 Changes:

Added	ZZWA	Sets or reads the Mixer Mic Level
	ZZWB	Sets or reads the Mixer Line In RCA Level
	ZZWC	Sets or reads the Mixer Line In Phono Level
	ZZWD	Sets or reads the Mixer Line In DB9 Level
	ZZWE	Sets or reads the Mixer Mic Select Checkbox
	ZZWF	Sets or reads the Mixer Line In RCA Select Checkbox
	ZZWG	Sets or reads the Mixer Line In Phono Select Checkbox
	ZZWH	Sets or reads the Mixer Line In DB9 Select Checkbox
	ZZWJ	Sets or reads the Mixer Input Mute All Button
	ZZWK	Sets or reads the Mixer Internal Speaker Level
	ZZWL	Sets or reads the Mixer External Speaker Level
	ZZWM	Sets or reads the Mixer Headphone Level
	ZZWN	Sets or reads the Mixer Line Out RCA Level
	ZZWO	Sets or reads the Mixer Internal Speaker Select Checkbox
	ZZWP	Sets or reads the Mixer External Speaker Select Checkbox
	ZZWQ	Sets or reads the Mixer Headphone Select Checkbox
	ZZWR	Sets or reads the Mixer Line Out RCA Select Checkbox
	ZZWS	Sets or reads the Mixer Output Mute All Button

February 15, 2008 Changes:

Obsolete:	PR	Sets or reads the Speech Compressor status
	ZZPK	Sets or reads the Speech Compressor status
	ZZPL	Sets or reads the Speech Compressor threshold

March 30, 2008 Changes:

Added:	ZZTS	Reads the Flex5000 Temperature Sensor
	ZZRA	Sets or reads the RTTY Offset Enable VFO A
	ZZRB	Sets or reads the RTTY Offset Enable VFO B
	ZZRH	Sets or reads the RTTY DIGH Offset Frequency
	ZZRL	Sets or reads the RTTY DIGL Offset Frequency

April 25, 2008 Changes:

Added:	ZZTI	Transmit Inhibit

April 28, 2008 Changes:

Corrected	ZZWA, ZZWB, ZZWC, ZZWD Mixer Input Levels.	

July 5, 2008 Changes:

Added:	ZZHU	Reads or sets the DSP Buffer CW RX Size
	ZZHV	Reads or sets the DSP Buffer CW TX Size
	ZZHW	Reads or sets the DSP Buffer Digital RX Size
	ZZHX	Reads or sets the DSP Buffer Digital TX Size
	RD	Decrements RIT
	RU	Increments RIT
	ZZRD	Decrements RIT
	ZZRU	Increments RIT
Changed:	ZZHR	Reads or sets the DSP Buffer Phone RX Size
	ZZHT	Reads or sets the DSP Buffer Phone TX Size

December 20, 2008 Changes

Corrected	ZZFL	Was: High, Is: Low
Changed:	ZZOA	Reads or sets RX1 Antenna
	ZZOB	Reads or sets RX2 Antenna
	ZZOC	Reads or sets TX Antenna
Added:	ZZOG	Reads or sets TX Relay Delay Enable
	ZZOH	Reads or sets TX Relay Delays
	ZZRS	Reads or sets the RX2 Button

January 30, 2008 Changes

Deleted:	ZZPK	Obsolete Speech Processor command
	ZZPL	Obsolete Speech Processor command
Added:	ZZFX	Sends FlexWire single data byte command
	ZZFY	Sends FlexWire double data byte command
	ZZOJ	Reads or sets the Antenna Lock checkbox
	ZZTO	Sets or reads TUN Power (missing in Dict. Only)
	ZZVH	Sets or reads I/Q to VAC checkbox (missing Dict. Only)

Revisions for 2009

March 20, 2009 Changes

Added:	ZZFV	Reads FlexWire single data byte
	ZZFW	Reads FlexWire double data byte

June 19, 2009 Changes

Added:	ZZSS	Stops CWX sending
Modified:	ZZPA	Added FLEX3000

December 23, 2009 Changes

Added	ZZSW	Reads or sets VFO A TX/VFO B TX Buttons
Modified	ZZSM	Added index “1” for RX2 S-Meter

January 3, 2010 Changes

Added	ZZSM	Added note concerning AI command

Revisions for 2010

January 11, 2010 Changes

Added	ZZSG	Move VFO B one tune step down
	ZZSH	Move VFO B one tune step up

February 3, 2010 Changes

Added	ZZVI	Set or read the VAC input cable
	ZZVM	Set or read the VAC driver
	ZZVO	Set or read the VAC output cable

February 24, 2010 Changes

Added	ZZRV	Reads the primary input voltage

April 1, 2010 Changes

Added	ZZBY	Closes the console

April 5, 2010 Changes

Added	ZZAC	Sets or reads the Step Size
	ZZAD	Moves VFO A down by a selected step size
	ZZAU	Moves VFO A up by a selected step size
	ZZBM	Moves VFO B down by a selected step size
	ZZBP	Moves VFO B up by a selected step size
Deprecated	ZZST	

April 11, 2010 Changes

Modified	ZZFM	Added FLEX3000 and FLEX1500 to models.

April 22, 2010 Changes

Modified	ZZRM	Added FnK models, removed Peak Power.

April 29, 2010 Changes

Added	ZZKM	Sends a CWX macro.

August 20, 2010 Changes

Added	ZZDU	Status Word
	ZZBT	RX2 Band
	ZZFJ	RX2 DSP RX Filter
	ZZME	RX2 Mode

September 21, 2010 Changes

Added:	ZZSN	Reads the radio serial number
	ZZVJ	Sets/Reads the IQ to VAC use RX2 checkbox
	ZZBA	Moves the RX2 bandswitch down one band
	ZZBB	Moves the RX2 bandswitch up one band
	ZZTV	Sets/Reads the TX VFO frequency when RX2 enabled

Changed: Corrected several typos

October 1, 2010 Changes

Changed:	ZZPA	Added values for FLEX1500

October 17, 2010 Changes

Added:	ZZTM	Set/Read the AF TX Monitor
Changed:	ZZVN	Extended length to 12 characters

December 7, 2010 Changes

Changed:	ZZOA	Extended to cover the FLEX1500
	ZZOC	Extended to cover the FLEX1500 “
	ZZOD	Extended to cover the FLEX1500
	ZZOF	Extended to cover the FLEX1500
	ZZOG	Extended to cover the FLEX1500
	ZZOH	Extended to cover the FLEX1500
	ZZOJ	Extended to cover the FLEX1500

December 26, 2010 Changes:

Changed:	ZZWE	Extended to cover the FLEX1500
	ZZWH	Extended to cover the FLEX1500
	ZZWJ	Extended to cover the FLEX1500
	ZZWQ	Extended to cover the FLEX1500
	ZZWR	Extended to cover the FLEX1500
	ZZWS	Extended to cover the FLEX1500
	ZZWT	Added for the FLEX1500 Mixer
	ZZWU	Added for the FLEX1500 Mixer
	ZZWV	Added for the FLEX1500 Mixer
	ZZWW	Added for the FLEX1500 Mixer

Revisions for 2011

February 3, 2011 Changes:

Changed:	ZZSM	Clarified explanation

February 8, 2011 Changes:

Added:	ZZOL	Sets or reads the DigL Click Tune Offset
	ZZOU	Sets or reads the DigU Click Tune Offset
	ZZSY	Sets or reads the VFO Sync Button

February 16, 2011 Changes:

Changed	ZZDU	Fixed typo P8 should reference ZZTS

February 24, 2011 Changes:

Added:	ZZDE	Sets or reads the Diversity Form Enable Button
	ZZDF	Opens or closes the Diversity Form
	ZZNC	Sets or reads the RX2 NB Button
	ZZND	Sets or reads the RX2 NB2 Button
	ZZPB	Sets or reads the RX2 Preamp Button

February 27, 2011 Changes:

Added	ZZAS	Sets or reads the RX2 AGC-T control

March 6, 2011 Changes:

Added	ZZPY	Sets or reads the Display Zoom slider

April 12, 2011 Changes:

Added	ZZDY	Sets or reads the Phone DX Level
	ZZLA	Sets or reads RX0 Gain
	ZZLB	Sets or reads RX0 Stereo Balance
	ZZLC	Sets or reads RX1 Gain
	ZZLC	Sets or reads RX1 Stereo Balance
Modified	ZZDM	Added 2.0 Panadapter modes
	ZZTM	Corrected typo

May 1, 2011 Changes:

Added	ZZPE	Sets or reads the Display Pan Position

May 5, 2011 Changes:

Added	ZZKO	Opens or closes the CWX Form

June 26, 2011 Changes:

Added	ZZLE	Sets or reads RX2 Audio Gain
	ZZLF	Sets or reads RX2 Stereo Balance

July 1, 2011 Changes:

Modified	ZZDE	Changed nomenclature to Enhanced Signal Clarity
	ZZDF	Changed nomenclature to Enhanced Signal Clarity

July 8, 2011 Changes:

Modified	ZZOA	Corrected typo
	ZZFI	Deleted FMN mode
	ZZFJ	Delete FMN mode, DSP filter selections removed from console Replaced all instances of FMN with FM

July 13, 2011 Changes:

Added	ZZEM	Enable/Disable CAT verbose error messages
	ZZIO	Read the installed options
Modified:		Added verbose error message code to ZZAS, ZZBA, ZZBB, ZZBT, ZZDE, ZZDF, ZZFJ, ZZLE, ZZME, ZZNC, ZZND, ZZOA, ZZOB, ZZOC, ZZOD, ZZOE, ZZOF, ZZOG, ZZOH, ZZOJ, ZZPB, ZZRS, ZZRV, ZZSN, ZZTS, ZZTV, ZZWA, ZZWB, ZZWC, ZZWD, ZZWE, ZZWF, ZZWG, ZZWH, ZZWJ, ZZWK, ZZWL, ZZWM, ZZWN, ZZWO, ZZWP, ZZWQ, ZZWR, ZZWS, ZZWT, ZZWU, ZZWV, ZZWW

July 16, 2011 Changes:

Added:	ZZOS	Sets or reads the Repeater Offset Direction
	ZZOT	Sets or reads the Repeater Offset Frequency
	ZZTA	Sets or reads the CTCSS Enable button
	ZZTB	Sets or reads the CTCSS Frequency
	ZZFD	Sets or reads the FM Deviation button

August 1, 2001 Changes:

Added:	ZZMV	Reads the number of memory channels programmed
	ZZMW	Deletes a memory channel
	ZZMX	Restores a memory channel
	ZZMY	Saves configuration to a new memory channel
	ZZMZ	Saves configuration to an existing memory channel

August 9, 2011 Changes:

Added:	ZZML	Gets the list of DSP modes and indexes
	ZZSV	Sets or reads the RX2 Squelch button
	ZZSZ	Sets or reads the RX2 Squelch Threshold

August 16, 2011 Changes:

Modified:	Corrected typo in ZZKM
	Corrected range in ZZKS
	Corrected FM squelch range ZZSQ/ZZSX

August 23, 2011 Changes:

Modified:	Fixed name length bug in ZZMN

August 26, 2011 Changes:

Modified	Corrected typo in ZZQS	
	Corrected range in ZZVB and ZZVC	
Added	ZZDN	Reads or sets the Waterfall Lo value
	ZZDO	Reads or sets the Waterfall Hi value
	ZZDP	Reads or sets the Spectrum Grid Max value
	ZZDQ	Reads or sets the Spectrum Grid Min value
	ZZDR	Reads or sets the Spectrum Grid Step value
	ZZMB	Reads or sets the RX2 mute status

August 31, 2011 Changes:

Modified	ZZMX	Corrected typos
	ZZMY	Corrected typo

September 1, 2011 Changes:

Modified	Corrected typos in MO, NB, NT, PR, RT, XT

October 6, 2011 Changes:

Added	ZZLG	Reads or sets the AutoMuteRX1onVFOBTX checkbox
	ZZLH	Reads or sets the AutoMuteRX2onVFOATX checkbox

October 16 2011 Changes:

Added	ZZOV	Reads or sets the ATU Enable Button
	ZZOW	Reads or sets the ATU Bypass Button
Modified	Corrected description for ZZWG	

January 25, 2012 Changes:

Modified	All VAC1 commands to reference Setup Form
Added:	ZZVP, ZZVY Additional VAC1 controls
Added	ZZVK, ZZVQ, ZZVR, ZZVT, ZZVU, ZZVV,
	ZZVW, ZZVX, ZZVZ, ZZYA, and ZZYB for VAC2 control
Added:	ZZYC, FM Mic Gain

May 10, 2012 Changes:

Modified	ZZSZ should be ZZSX in Functional Groups and Command Ref
Added:	ZZSZ Syncs VFO A or B to the current step size.

June 30, 2012 Changes:

Modified	Fixed typo in ZZSA

September 26, 2012 Changes:

Modified	Corrected F3K text in ZZPA

October 23, 2012 Changes:

Modified	ZZBT/ZZBS text to reflect V/U readings

December 15, 2012 Changes

Added:	ZZFR Sets or reads the current RX2 DSP filter high
	ZZFS Sets or reads the current RX2 DSP filter low

March 6, 2014 Changes

Modified	ZZAC, ZZAD, ZZAU, ZZBM, ZZBP for additional step sizes.
	IF, ZZIF Added note about step size limits.