**PowerSDR™ 3.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.

# PowerSDR Commands by Functional Group

## RECEIVE AUDIO PROCESSING AND CONTROL

|  |  |  |
| --- | --- | --- |
| [ZZAG](#_ZZAG_Command) | Sets or reads the Audio Gain | [AG](#_AG_Command) |
| [ZZBI](#_ZZBI_Command) | Sets or reads the Binaural (BIN) status |  |
| [ZZEA](#_ZZEA_Command) | Sets or reads the RX EQ values |  |
| [ZZER](#_ZZER_Command) | Sets or reads the RX EQ status |  |
| [ZZLA](#_ZZLA_Command) | Sets or reads the Main RX Gain (MultiRX Group) |  |
| [ZZLB](#_ZZLB_Command) | Sets or reads the Main RX Stereo Balance (MultiRX Group) |  |
| [ZZLE](#_ZZLE_Command) | Sets or reads the RX2 Gain (Flex5000 w/RX2 only) |  |
| [ZZLF](#_ZZLF_Command) | Sets or reads the RX2 Stereo Balance (Flex5000 w/RX2 only) |  |
| [ZZLG](#_ZZLG_Command) | Sets or reads the AutoMuteRX1onVFOBTX checkbox (F5K only) |  |
| [ZZLH](#_ZZLH_Command) | Sets or reads the AutoMuteRX2onVFOATX checkbox (F5K/RX2 only) |  |
| [ZZMA](#_ZZMA_Command) | Sets or reads the RX1 Mute (MUT) status |  |
| [ZZMB](#_ZZMB_Command) | Sets or reads the RX2 Mute status |  |
| [ZZMO](#_ZZMO_Command) | Sets or reads the Monitor (MON) status | MO |

## RECEIVE RF PROCESSING AND CONTROL

|  |  |  |
| --- | --- | --- |
| [ZZAR](#_ZZAR_Command) | Sets or reads the RX1 AGC-T |  |
| [ZZAS](#_ZZAS_Command) | Sets or reads the RX2 AGC-T |  |
| [ZZGT](#_ZZGT_Command) | Sets or reads the RX1 AGC Mode Selector |  |
| [ZZGU](#_ZZGU_Command) | Sets or reads the RX2 AGC Mode Selector |  |
| [ZZPA](#_ZZPA_Command) | Sets or reads the Preamp Gain setting |  |
| [ZZPB](#_ZZPB_Command) | Sets or reads the RX2 Preamp status |  |
| [ZZSO](#_ZZSO_Command) | Sets or reads the RX1 Squelch on/off status |  |
| [ZZSQ](#_ZZSQ_Command) | Sets or reads the RX1 Squelch level | SQ |
| [ZZSV](#_ZZSV_Command) | Sets or reads the RX2 Squelch button |  |
| [ZZSX](#_ZZSX_Command) | Sets or reads the RX2 Squelch Threshold |  |
| [ZZXN](#_ZZXN_Command) | Reads the combined RX1 status |  |
| [ZZXO](#_ZZXO_Command) | Reads the combined RX2 status |  |

## DSP RECEIVE FILTERS

|  |  |  |
| --- | --- | --- |
| [ZZFH](#_ZZFH_Command) | Sets or reads the selected RX1 DSP Filter high cutoff |  |
| [ZZFI](#_ZZFI_Command) | Sets or reads the selected RX1 DSP Filter low cutoff |  |
| [ZZFJ](#_ZZFJ_Command) | Sets or reads the current RX2 DSP receive filter |  |
| [ZZFL](#_ZZFL_Command) | Sets or reads the DSP Low Filter |  |
| [ZZFR](#_ZZFR_Command) | Sets or reads the selected RX2 DSP Filter high cutoff |  |
| [ZZFS](#_ZZFS_Command) | Sets or reads the selected RX2 DSP Filter low cutoff |  |
| [ZZHA](#_ZZHA_Command) | Sets or reads the Audio Filter Size |  |
| [ZZHR](#_ZZHR_Command) | Sets or reads the DSP RX Filter Phone Size |  |
| [ZZHU](#_ZZHU_Command) | Sets or reads the DSP RX Filter CW Size |  |
| [ZZHW](#_ZZHW_Command) | Sets or reads the DSP RX Filter Digital Size |  |
| [ZZIS](#_ZZIS_Command) | Sets or reads the variable filter width slider |  |
| [ZZIT](#_ZZIT_Command) | Sets or reads the variable filter shift slider |  |
| [ZZIU](#_ZZIU_Command) | Resets the variable filter shift slider |  |
| [ZZMN](#_ZZMN_Command) | Sets or reads the DSP filter names and values |  |
| [ZZSF](#_ZZSF_Command) | Sets the variable filter width and center frequency |  |

**SUBRECEIVER**

|  |  |  |
| --- | --- | --- |
| [ZZLC](#_ZZLC_Command) | Sets or reads RX1 (subreceiver) Gain |  |
| [ZZLD](#_ZZLD_Command) | Sets or reads RX1 (subreceiver) Stereo Balance |  |
| [ZZMS](#_ZZMS_Command) | Sets or reads the MultiRX Swap checkbox |  |
| [ZZMU](#_ZZMU_Command) | Sets or reads the MultiRX button status |  |

## VFO CONTROL

|  |  |  |
| --- | --- | --- |
| [ZZAC](#_ZZAC_Command) | Sets or reads the Tune Step |  |
| [ZZAD](#_ZZAD_Command) | Moves VFO A down by a selected step |  |
| [ZZAU](#_ZZAU_Command) | Moves VFO A up by a selected step |  |
| [ZZBM](#_ZZBM_Command) | Moves VFO B down by a selected step |  |
| [ZZBP](#_ZZBP_Command) | Moves VFO B up by a selected step |  |
| [ZZAE](#_ZZAE_Command) | Moves VFO A down by N current tuning steps |  |
| [ZZAF](#_ZZAF_Command) | Moves VFO A up by N current tuning steps |  |
| [ZZBE](#_ZZBE_Command) | Moves VFO B down by N current tuning steps |  |
| [ZZBF](#_ZZBF_Command) | Moves VFO B up by N current tuning steps |  |
| [ZZFA](#_ZZFA_Command) | Sets or reads VFO A frequency | FA |
| [ZZFB](#_ZZFB_Command) | Sets or reads VFO B frequency | FB |
| [ZZQM](#_ZZQM_Command) | Reads the Quick Save Memory value |  |
| [ZZQR](#_ZZQR_Command) | Restores the Quick Save Memory value |  |
| [ZZQS](#_ZZQS_Command) | Saves Frequency A, Mode, and Band to Quick Memory | QI |
| [ZZRC](#_ZZRC_Command) | Clears the RIT frequency | RC |
| [ZZRD](#_ZZRD_Command) | Decrements the RIT frequency | RD |
| [ZZRF](#_ZZRF_Command) | Sets or reads the RIT frequency |  |
| [ZZRT](#_ZZRT_Command) | Sets or reads the RIT button status | RT |
| [ZZRU](#_ZZRU_Command) | Increments the RIT frequency | RU |
| [ZZSA](#_ZZSA_Command) | Moves VFO A down one Tune Step | DN |
| [ZZSB](#_ZZSB_Command) | Moves VFO A up one Tune Step | UP |
| [ZZSD](#_ZZSD_Command) | Decrements the Tune Step |  |
| [ZZSG](#_ZZSG_Command) | Moves VFO B down one Tune Step |  |
| [ZZSH](#_ZZSH_Command) | Moves VFO B up one Tune Step |  |
| [ZZSP](#_ZZSP_Command) | Sets or reads the VFO Split button status | FT |
| [ZZST](#_ZZST_Command) | Reads the frequency step size (Deprecated) |  |
| [ZZSU](#_ZZSU_Command) | Increments the Tune Step |  |
| [ZZSW](#_ZZSW_Command) | Sets or reads VFO A TX/VFO B TX buttons |  |
| [ZZSY](#_ZZSY_Command) | Sets or reads the VFO Sync Button |  |
| [ZZSZ](#_ZZSZ_Command) | Syncs VFO A or B to the current Tune Step |  |
| [ZZTV](#_ZZTV_Command) | Sets or reads the TX VFO frequency when RX2 enabled |  |
| [ZZVL](#_ZZVL_Command) | Sets or reads the VFO Lock status |  |
| [ZZUX](#_ZZUX_Command) | Sets or reads the VFO A Lock status |  |
| [ZZUY](#_ZZUY_Command) | Sets or reads the VFO B Lock status |  |
| [ZZVS](#_ZZVS_Command) | Sets the VFO Swap status |  |
| [ZZXC](#_ZZXC_Command) | Clears the XIT frequency |  |
| [ZZXF](#_ZZXF_Command) | Sets or reads the XIT frequency |  |
| [ZZXS](#_ZZXS_Command) | Sets or reads the XIT button status |  |
| [ZZZB](#_ZZZB_Command) | Sets the Zero Beat button |  |
| [ZZCN](#_ZZCN_Command) | Sets or reads the VFO A Click Tune (CTUNE) status |  |
| [ZZCO](#_ZZCO_Command) | Sets or reads the VFO B Click Tune (CTUNE) status |  |
| [ZZXV](#_ZZXV_Command) | Read the combined VFO status |  |

## NOISE REJECTION

|  |  |  |
| --- | --- | --- |
| [ZZBR](#_ZZBR_Command) | Sets or reads the BCI Rejection button |  |
| [ZZNA](#_ZZNA__) | Sets or reads RX1 Noise Blanker 1 (NB) status | NB |
| [ZZNB](#_ZZNB_Command) | Sets or reads RX1 Noise Blanker 2 (NB2) status |  |
| [ZZNC](#_ZZNC_Command) | Sets or reads RX2 Noise Blanker 1 status |  |
| [ZZND](#_ZZND_Command) | Sets or reads RX2 Noise Blanker 2 status |  |
| [ZZNL](#_ZZNL_Command) | Sets or reads Noise Blanker 1 threshold |  |
| [ZZNM](#_ZZNM_Command) | Sets or reads the Noise Blanker 2 threshold |  |
| [ZZNN](#_ZZNN__) | Sets or reads RX1 Spectral Noise Blanker (SNB) status |  |
| [ZZNO](#_ZZNO__) | Sets or reads RX2 Spectral Noise Blanker (SNB) status |  |
| [ZZNR](#_ZZNR_Command) | Sets or reads the RX1 Noise Reduction (NR) status |  |
| [ZZNS](#_ZZNS_Command) | Sets or reads the RX1 Noise Reduction2 (NR2) status |  |
| [ZZNT](#_ZZNT_Command_1) | Sets or reads the RX1 Auto Notch Filter (ANF) status | NT |
| [ZZNU](#_ZZNU_Command) | Sets or reads the RX2 Auto Notch Filter (ANF) status |  |
| [ZZNV](#_ZZNV_Command) | Sets or reads the RX2 Noise Reduction (NR) status |  |
| [ZZNW](#_ZZNW_Command) | Sets or reads the RX2 Noise Reduction 2 (NR2) status |  |
| [ZZSR](#_ZZSR_Command) | Sets or reads the Spur Reduction (SR) status |  |

**MODULATION/DETECTION MODES**

|  |  |  |
| --- | --- | --- |
| [ZZMD](#_ZZMD_Command) | Sets or reads the current RX1 mode |  |
| [ZZME](#_ZZME_Command) | Sets or reads the current RX2 mode |  |
| [ZZML](#_ZZML_Command) | Returns a list of DSP modes and indexes |  |

**BAND SWITCHING**

|  |  |  |
| --- | --- | --- |
| [ZZBA](#_ZZBA_Command) | Moves the RX2 bandswitch down one band | MD |
| [ZZBB](#_ZZBB_Command) | Moves the RX2 bandswitch up one band |  |
| [ZZBD](#_ZZBD_Command) | Moves the RX1 bandswitch down one band | BD |
| [ZZBG](#_ZZBG_Command) | Sets or reads the Band Group (HF/VHF) |  |
| [ZZBS](#_ZZBS_Command) | Sets or reads the RX1 Bandswitch |  |
| [ZZBT](#_ZZBT_Command) | Sets or reads the RX2 Bandswitch |  |
| [ZZBU](#_ZZBU_Command) | Moves the RX1 bandswitch up one band | BU |
| [ZZUA](#_ZZUA_Command) | Reads the XVTR Band Button Names |  |

## DISPLAY FUNCTIONS

|  |  |  |
| --- | --- | --- |
| [ZZCF](#_ZZCF_Command) | Sets or reads the Show CW TX Filter checkbox |  |
| [ZZCU](#_ZZCU_Command) | Reads the CPU usage |  |
| [ZZDA](#_ZZDA_Command) | Sets or reads the Display Average (AVG) status |  |
| [ZZDM](#_ZZDM_Command) | Sets or reads the Display Mode |  |
| [ZZDN](#_ZZDN_Command) | Sets or reads the Waterfall Lo Value |  |
| [ZZDO](#_ZZDO_Command) | Sets or reads the Waterfall Hi Value |  |
| [ZZDP](#_ZZDP_Command) | Sets or reads the Spectrum Grid Max Value |  |
| [ZZDQ](#_ZZDQ_Command) | Sets or reads the Spectrum Grid Min Value |  |
| [ZZDR](#_ZZDR_Command) | Sets or reads the Spectrum Grid Step Value |  |
| [ZZPD](#_ZZPD_Command) | Sets the Display Pan Center button |  |
| [ZZPE](#_ZZPE_Command) | Sets or reads the Display Pan Position |  |
| [ZZPO](#_ZZPO_Command) | Sets or reads the Display Peak button |  |
| [ZZPY](#_ZZPY_Command) | Sets or reads the Display Zoom slider |  |
| [ZZPZ](#_ZZPZ_Command) | Sets or reads the Display Zoom buttons |  |
| [ZZTF](#_ZZTF_Command) | Sets or reads the Show TX Filter checkbox |  |

## METERING

|  |  |  |
| --- | --- | --- |
| [ZZMR](#_ZZMR_Command) | Sets or reads the RX Meter mode |  |
| [ZZMT](#_ZZMT_Command) | Sets or reads the TX Meter mode |  |
| [ZZRM](#_ZZRM_Command) | Reads the RX Meter value |  |
| [ZZSM](#_ZZSM_Command) | Reads the S Meter | SM |

**CAT SPECIFIC**

|  |  |  |
| --- | --- | --- |
| [ZZAI](#_ZZAI_Command) | Reads or sets the Auto Information function | AI |
| [ZZEM](#_ZZEM_Command) | Enables/Disables CAT verbose error messages |  |
| [ZZFM](#_ZZFM_Command) | Reads the FlexRadio Model Number |  |
| [ZZID](#_ZZID_Command) | Sets or reads the transceiver ID number |  |
| [ZZIF](#_ZZIF_Command) | Reads the transceiver status word | IF |
| [ZZSN](#_ZZSN_Command) | Reads the radio serial number |  |
| [ZZVN](#_ZZVN_Command) | Reads the PowerSDR software version number |  |
| [ZZZZ](#_ZZZZ_Command) | Close the CAT Serial Port |  |

## DIGITAL MODES

|  |  |  |
| --- | --- | --- |
| [ZZOL](#_ZZOL_Commands) | Sets or reads the DigL Click Tune Offset |  |
| [ZZOU](#_ZZOU_Command) | Sets or reads the DigU Click Tune Offset |  |
| [ZZRA](#_ZZRA_Command) | Sets or reads the RTTY Offset Enable VFO A |  |
| [ZZRB](#_ZZRB_Command) | Sets or reads the RTTY Offset Enable VFO B |  |
| [ZZRH](#_ZZRH_Command) | Sets or reads the RTTY DIGH Offset Frequency |  |
| [ZZRL](#_ZZRL_Command) | Sets or reads the RTTY DIGL Offset Frequency |  |

## TRANSMIT AUDIO PROCESSING AND CONTROL

|  |  |  |
| --- | --- | --- |
| [ZZCP](#_ZZCP_Command) | Sets or reads the Compander (CPDR) status |  |
| [ZZCT](#_ZZCT_Command) | Sets or reads the Compander threshol |  |
| [ZZDX](#_ZZDX_Command) | Sets or reads the Phone DX button status |  |
| [ZZDY](#_ZZDY_Command) | Sets or reads the Phone DX Level |  |
| [ZZEB](#_ZZEB_Command) | Sets or reads the TX EQ values |  |
| [ZZET](#_ZZET_Command) | Sets or reads the TX EQ button status |  |
| [ZZGE](#_ZZGE_Command) | Sets or reads the Noise Gate button status |  |
| [ZZGL](#_ZZGL_Command) | Sets or reads the Noise Gate threshold |  |
| [ZZHT](#_ZZHT_Command) | Sets or reads the DSP TX Filter Phone Size |  |
| [ZZHV](#_ZZHV_Command) | Sets or reads the DSP TX Filter CW Size |  |
| [ZZHX](#_ZZHX_Command) | Sets or reads the DSP TX Filter Digital Size |  |
| [ZZMG](#_ZZMG_Command) | 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](#_ZZTH_Command) | Sets or reads the TX Filter High setting |  |
| [ZZTI](#_ZZTI_Command) | Transmit Inhibit |  |
| [ZZTL](#_ZZTL_Command) | Sets or reads the TX Filter Low setting |  |
| [ZZTM](#_ZZTM_Command) | Sets or reads the TX AF Monitor |  |
| [ZZTO](#_ZZTO_Command) | Sets or reads the TUN Power Level |  |
| [ZZTP](#_ZZTP_Command) | Sets or reads the Transmit Profile |  |
| [ZZTU](#_ZZTU_Command) | Sets or reads the Tune (TUN) status |  |
| [ZZTX](#_ZZTX_Command) | Sets or reads the MOX button status | RX/TX |
| [ZZVA](#_ZZVA_Command) | Sets or reads the VAC button status |  |
| [ZZVE](#_ZZVE_Command) | Sets or reads the VOX button status |  |
| [ZZVG](#_ZZVG_Command) | Sets or reads the VOX gain |  |
| [ZZXH](#_ZZXH_Command) | Sets or reads the VOX delay (hang) time |  |
| [ZZLI](#_ZZLI_Command) | Sets or reads the PureSignal (PS-A) button status |  |

## FM/REPEATER CONTROLS

|  |  |  |
| --- | --- | --- |
| [ZZFD](#_ZZFD_Command) | Sets or reads the FM Deviation Button |  |
| [ZZOS](#_ZZOS_Commands) | Sets or reads the Repeater Offset Direction | OS |
| [ZZOT](#_ZZOT_Commands) | Sets or reads the Repeater Offset Frequency | OF |
| [ZZTA](#_ZZTA_Command) | Sets or reads the CTCSS Enable Button | CT |
| [ZZTB](#_ZZTB_Command) | Sets or reads the CTCSS Frequency | CN |
| [ZZMV](#_ZZMV_Command) | Reads the number of memory channels |  |
| [ZZMW](#_ZZMWCommand) | Deletes a memory channel |  |
| [ZZMX](#_ZZMX_Command) | Restores a memory channel |  |
| [ZZMY](#_ZZMY_Command) | Save configuration to a new memory channel |  |
| [ZZMZ](#_ZZMZ_Command) | Save configuration to an existing memory channel |  |
| [ZZYC](#_ZZYC_Command) | Sets or reads the FM Mic Gain |  |

**CW**

|  |  |  |
| --- | --- | --- |
| [ZZCB](#_ZZCB_Command) | Sets or reads the Break-In checkbox status |  |
| [ZZCD](#_ZZCD_Command) | Sets or reads the Break-In Delay value |  |
| [ZZCI](#_ZZCI_Command) | Sets or reads the CW Iambic checkbox status |  |
| [ZZCL](#_ZZCL_Command) | Sets or reads the CW Pitch |  |
| [ZZCM](#_ZZCM_Command) | Sets or reads the CW Monitor checkbox status |  |
| [ZZCS](#_ZZCS_Command) | Sets or reads the CW Speed |  |
| [ZZKM](#_ZZKM_Command) | Sends a CWX macro |  |
| [ZZKO](#_ZZKO_Command) | Opens or closes the CWX form |  |
| [ZZKS](#_ZZKS_Command) | Sets or reads CWX CW speed | KS |
| [ZZKY](#_ZZKY_Command) | Sends text to CWX for conversion to Morse | KY |
| [ZZSS](#_ZZSS_Command) | Stops CWX sending (immediate) |  |
| [ZZAA](#_ZZAA_Command) | Sets or reads the CW Audio Peaking filter gain |  |
| [ZZAB](#_ZZAB_Command) | Sets or reads the CW Audio Peaking filter bandwidth |  |
| [ZZAP](#_ZZAP_Command) | Sets or reads the CW Audio Peaking filter on/off status |  |
| [ZZAT](#_ZZAT_Command) | Sets or reads the CW Audio Peaking filter tuning |  |

## MISCELLANEOUS

|  |  |  |
| --- | --- | --- |
| [ZZBY](#_ZZBY_Command) | Closes the console |  |
| [ZZDE](#_ZZDE_Command) | Sets or reads the Diversity Form Enable button |  |
| [ZZDF](#_ZZDF_Command) | Opens or closes the Diversity Form |  |
| [ZZDU](#_ZZDU_Command) | Status Word |  |
| [ZZFV](#_ZZFV_Command) | Reads FlexWire single byte data |  |
| [ZZFW](#_ZZFW_Command) | Reads FlexWire double byte data |  |
| [ZZFX](#_ZZFX_Command) | Sends FlexWire single data byte command |  |
| [ZZFY](#_ZZFY_Command) | Sends FlexWire double data byte command |  |
| [ZZIO](#_ZZIO_Command) | Reads the transceiver installed options |  |
| [ZZPC](#_ZZPC_Command) | Sets or reads the Drive Level | PC |
| [ZZPS](#_ZZPS_Command) | Sets or reads the Start button status |  |
| [ZZRS](#_ZZRS_Command) | Sets or reads the RX2 button status |  |
| [ZZRV](#_ZZRV_Command) | Reads the primary input voltage |  |
| [ZZTS](#_ZZTS_Command) | Reads the Flex5000 Temperature Sensor |  |
| [ZZXT](#_ZZXT_Command) | Sets or reads the X2TR button status |  |
| [ZZUS](#_ZZUS_Command) | Initiates a PureSignal single CAL function |  |
| [ZZUT](#_ZZUT_Command) | Turns a two-tone test on or off |  |

## ANTENNAS

|  |  |  |
| --- | --- | --- |
| [ZZOA](#_ZZOA_Command) | Sets or reads the antenna connected to RX1 |  |
| [ZZOB](#_ZZOB_Command) | Sets or reads the antenna connected to RX2 |  |
| [ZZOC](#_ZZOC_Command) | Sets or reads the antenna connected to the transmitter |  |
| [ZZOD](#_ZZOD_Command) | Sets or reads the Antenna Mode (Simple/Complex) |  |
| [ZZOE](#_ZZOE_Command) | Sets or reads the RX1 Loop |  |
| [ZZOF](#_ZZOF_Command) | Sets or reads the RCA TX relay jacks |  |
| [ZZOG](#_ZZOG_Command) | Sets or reads the TX relay enables |  |
| [ZZOH](#_ZZOH_Command) | Sets or reads the TX relay delays |  |
| [ZZOJ](#_ZZOJ_Command) | Sets or reads the Antenna Lock Checkbox |  |
| [ZZOV](#_ZZOV_Command) | Sets or reads the ATU Enable Button |  |
| [ZZOW](#_ZZOW_Command) | Sets or reads the ATU Bypass Button |  |

## MIXER CONTROLS

|  |  |  |
| --- | --- | --- |
| [ZZWA](#_ZZWA_Command) | Sets or reads the F5K Mixer Mic Level |  |
| [ZZWB](#_ZZWB_Command) | Sets or reads the F5K Mixer Line In RCA Level |  |
| [ZZWC](#_ZZWC_Command) | Sets or reads the F5K Mixer Line In Phono Level |  |
| [ZZWD](#_ZZWD_Command) | Sets or reads the F5K Mixer Line In DB9 Level |  |
| [ZZWE](#_ZZWE_Command) | Sets or reads the F1500/F5K Mixer Mic Select Checkbox |  |
| [ZZWF](#_ZZWF_Command) | Sets or reads the F5K Mixer Line In RCA Select Checkbox |  |
| [ZZWG](#_ZZWG_Command) | Sets or reads the F5K Mixer Line In Phono Select Checkbox |  |
| [ZZWH](#_ZZWH_Command) | Sets or reads the F1500/F5K Mixer FlexWire/Line In DB9 Select Checkbox |  |
| [ZZWJ](#_ZZWJ_Command) | Sets or reads the F1500/F5K Mixer Input Mute All Button |  |
| [ZZWK](#_ZZWK_Command) | Sets or reads the F5000C Mixer Internal Speaker Level |  |
| [ZZWL](#_ZZWL_Command) | Sets or reads the F5K Mixer External Speaker Level |  |
| [ZZWM](#_ZZWM_Command) | Sets or reads the F5K Mixer Headphone Level |  |
| [ZZWN](#_ZZWN_Command) | Sets or reads the F5K Mixer Line Out RCA Level |  |
| [ZZWO](#_ZZWO_Command) | Sets or reads the F5K Mixer Internal Speaker Select Checkbox |  |
| [ZZWP](#_ZZWP_Command) | Sets or reads the F5K Mixer External Speaker Select Checkbox |  |
| [ZZWQ](#_ZZWQ_Command) | Sets or reads the F1500/F5K Mixer Headphone Select Checkbox |  |
| [ZZWR](#_ZZWR_Command) | Sets or reads the F1500/F5K Mixer FlexWire/Line Out RCA Select Checkbox |  |
| [ZZWS](#_ZZWS_Command) | Sets or reads the F1500/F5K Mixer Output Mute All Button |  |
| [ZZWT](#_ZZWT_Command) | Sets or reads the F1500 Mixer Mic Level |  |
| [ZZWU](#_ZZWU_Command) | Sets or reads the F1500 Mixer FlexWire Input Level |  |
| [ZZWV](#_ZZWV_Command) | Sets or reads the F1500 Mixer Phones Output Level |  |
| [ZZWW](#_ZZWW_Command) | Sets or reads the F1500 Mixer FlexWire Output Level |  |

**VAC CONTROLS**

|  |  |  |
| --- | --- | --- |
| [ZZVA](#_ZZVA_Command) | Sets or reads the VAC1 Enable Checkbox |  |
| [ZZVB](#_ZZVB_Command) | Sets or reads the VAC1 RX Gain |  |
| [ZZVC](#_ZZVC_Command) | Sets or reads the VAC1 TX Gain |  |
| [ZZVD](#_ZZVD_Command) | Sets or reads the VAC1 Sample Rate |  |
| [ZZVF](#_ZZVF_Command) | Sets or reads the VAC1 Stereo Checkbox |  |
| [ZZVH](#_ZZVH_Command) | Sets or reads the I/Q to VAC1 Checkbox |  |
| [ZZVI](#_ZZVI_Command) | Sets or reads the VAC1 Input Cable |  |
| [ZZVJ](#_ZZVJ_Command) | Sets or reads the I/Q to VAC1 use RX2 Checkbox |  |
| [ZZVM](#_ZZVM_Command) | Sets or reads the VAC1 Driver |  |
| [ZZVO](#_ZZVO_Command) | Sets or reads the VAC1 Output Cable |  |
| [ZZVP](#_ZZVP_Command) | Sets or reads the VAC1 IQ Calibrate Checkbox |  |
| [ZZVK](#_ZZVK_Command) | Sets or reads the VAC2 Enable Checkbox |  |
| [ZZVQ](#_ZZVQ_Command) | Sets or reads the VAC2 Driver |  |
| [ZZVR](#_ZZVR_Command) | Sets or reads the VAC2 Input Cable |  |
| [ZZVT](#_ZZVT_Command) | Sets or reads the VAC2 Output Cable |  |
| [ZZVU](#_ZZVU_Command) | Sets or reads the VAC2 Sample Rate |  |
| [ZZVV](#_ZZVV_Command) | Sets or reads the VAC2 Stereo Checkbox |  |
| [ZZVW](#_ZZVW_Command) | Sets or reads the VAC2 RX Gain |  |
| [ZZVX](#_ZZVX_Command) | Sets or reads the VAC2 TX Gain |  |
| [ZZVY](#_ZZVY_Command) | Sets or reads the VAC1 Buffer Size |  |
| [ZZVZ](#_ZZVZ_Command) | Sets or reads the VAC2 Buffer Size |  |
| [ZZYA](#_ZZYA_Command) | Sets or reads the VAC2 Direct IQ Enable Checkbox |  |
| [ZZYB](#_ZZYB_Command) | Sets or reads the VAC2 IQ Calibrate Checkbox |  |

# FlexRadio PowerSDR 2.x CAT Command Syntax

## ZZAx Commands

### ZZAA Command

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ZZAA Sets or reads the CW Audio Peaking Filter (APF) gain** | | | | | | | | | | |
| **Get** | ZZAA | ; |  |  |  |  |  |  |  |  |
| **Set** | ZZAA | P1 | P1 | P1 | P1 | ; |  |  |  |  |
| **Answer** | ZZAA | P1 | P1 | P1 | P1 | ; |  |  |  |  |
| **Notes** | P1 is signed, +000 to +100 (the plus sign is required) | | | | | | | | | |

### ZZAB Command

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ZZAB Sets or reads the CW Audio Peaking Filter (APF) bandwidth** | | | | | | | | | | |
| **Get** | ZZAB | ; |  |  |  |  |  |  |  |  |
| **Set** | ZZAB | P1 | P1 | P1 | P1 | ; |  |  |  |  |
| **Answer** | ZZAB | P1 | P1 | P1 | P1 | ; |  |  |  |  |
| **Notes** | P1 is signed, +010 to +150 (the plus sign is required). This sets the bandwidth in Hz. | | | | | | | | | |

### 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 24   1. = 1 Hz 2. = 10 Hz 3. = 25 Hz 4. = 50 Hz 5. = 100 Hz 6. = 250 Hz 7. = 500 Hz 8. = 1 KHz 9. = 2 KHz 10. = 2.5 KHz 11. = 5 KHz 12. = 6.25KHz | | | | | 1. = 9 KHz 2. = 10 KHz 3. = 12.5 KHz 4. = 15 KHz 5. = 20 KHz   17 = 25 KHz  18 = 30 KHz  19 = 50 KHz  20 = 100 KHz  21 = 250 KHz  22 = 500 KHz  23 = 1 MHz  24 = 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** | P1 = 00 to 14   1. = 1 Hz 2. = 10 Hz 3. = 25 Hz 4. = 50 Hz 5. = 100 Hz 6. = 250 Hz 7. = 500 Hz | | | | | 1. = 1 KHz 2. = 5 KHz 3. = 9 KHz 4. = 10 KHz 5. = 100 KHz 6. = 250 KHz 7. = 500 KHz 8. = 1 MHz | | | | | |
| ZZAD is write-only. P1 = 00 to 14.  ZZAD does not change the Step Size. | | | | | | | | | | |

### ZZAE Command

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ZZAE Moves VFO A Down By the selected number of tuning steps** | | | | | | | | | | |
| **Set** | ZZAE | P1 | P1 | ; |  |  |  |  |  |  |
| **Notes** | P1 = 00 to 99.  ZZAE moves the VFO by 0 to 99 times the currently selected & displayed tuning step  ZZAE is write-only. | | | | | | | | | |

### ZZAF Command

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ZZAF Moves VFO A up By the selected number of tuning steps** | | | | | | | | | | |
| **Set** | ZZAF | P1 | P1 | ; |  |  |  |  |  |  |
| **Notes** | P1 = 00 to 99.  ZZAF moves the VFO by 0 to 99 times the currently selected & displayed tuning step  ZZAF is write-only. | | | | | | | | | |

### 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. | | | | | | | | | |

### ZZAP Command

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ZZAP Sets or reads the CW Audio Peaking Filter (APF) on/off status** | | | | | | | | | | |
| **Get** | ZZAP | ; |  |  |  |  |  |  |  |  |
| **Set** | ZZAP | P1 | ; |  |  |  |  |  |  |  |
| **Answer** | ZZAP | P1 | ; |  |  |  |  |  |  |  |
| **Notes** | P1 = 0 for off, 1 for on. | | | | | | | | | |

### 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). | | | | | | | | | |

### ZZAT Command

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ZZAT Sets or reads the CW Audio Peaking Filter (APF) Tuning** | | | | | | | | | | |
| **Get** | ZZAT | ; |  |  |  |  |  |  |  |  |
| **Set** | ZZAT | P1 | P1 | P1 | P1 | ; |  |  |  |  |
| **Answer** | ZZAT | P1 | P1 | P1 | P1 | ; |  |  |  |  |
| **Notes** | P1 = -250 to +250 (the plus or minus sign is required). This specifies a frequency in Hz relative to the CW pitch. | | | | | | | | | |

### ZZAU Command

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ZZAU Moves VFO A Up By The Selected Step** | | | | | | | | | | |
| **Set** | ZZAU | P1 | P1 | ; |  |  |  |  |  |  |
| **Notes** | ZZAU is write-only. P1 = 00 to 14.  See ZZAD 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 | | | | | | | | | |

### ZZBE Command

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ZZBE Moves VFO B Down By the selected number of tuning steps** | | | | | | | | | | |
| **Set** | ZZBE | P1 | P1 | ; |  |  |  |  |  |  |
| **Notes** | P1 = 00 to 99.  ZZBE moves the VFO by 0 to 99 times the currently selected & displayed tuning step  ZZBE is write-only. | | | | | | | | | |

### ZZBF Command

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ZZBF Moves VFO B up By the selected number of tuning steps** | | | | | | | | | | |
| **Set** | ZZBF | P1 | P1 | ; |  |  |  |  |  |  |
| **Notes** | P1 = 00 to 99.  ZZBF moves the VFO by 0 to 99 times the currently selected & displayed tuning step  ZZBF 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 14.  See ZZAD 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 14.  See ZZAD 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. | | | | | | | | | |

### ZZCN Command

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ZZCN Sets or reads the VFO A Click Tune (CTUNE) status** | | | | | | | | | | |
| **Get** | ZZCN | ; |  |  |  |  |  |  |  |  |
| **Set** | ZZCN | P1 | ; |  |  |  |  |  |  |  |
| **Answer** | ZZCN | P1 | ; |  |  |  |  |  |  |  |
| **Notes** | P1 = 0 for disabled, 1 for enabled. | | | | | | | | | |

### ZZCO Command

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ZZCO Sets or reads the VFO B Click Tune (CTUNE) status** | | | | | | | | | | |
| **Get** | ZZCO | ; |  |  |  |  |  |  |  |  |
| **Set** | ZZCO | P1 | ; |  |  |  |  |  |  |  |
| **Answer** | ZZCO | 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:   1. = Spectrum 2. = Panadapter 3. = Scope 4. = Phase 5. = Phase2 | | | | | 1. = Waterfall 2. = Histogram 3. = Panafall 4. = Panascope 5. = 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:  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   1. 5.0K 3.0K 16K 1.0K 2. 4.4K 2.5K 12K 800 3. 3.8K 2.0K 10K 750 4. 3.3K 1.5K 8.0K 600 5. 2.9K 1.0K 6.6K 500 6. 2.7K 800 5.2K 400 7. 2.4K 600 4.0K 250 8. 2.1K 300 3.1K 100 9. .8K 150 2.9K 50 10. 1.0K 75 2.4K 25 11. VAR1 VAR1 VAR1 VAR1 12. 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   1. 5.0K 3.0K 16K 1.0K 2. 4.4K 2.5K 12K 800 3. 3.8K 2.0K 10K 750 4. 3.3K 1.5K 8.0K 600 5. 2.9K 1.0K 6.6K 500 6. 2.7K 800 5.2K 400 7. 2.4K 600 4.0K 250 8. \* \* \* \* 9. \* \* \* \* 10. \* \* \* \* 11. VAR1 VAR1 VAR1 VAR1 12. 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 RX1 AGC thumbwheel control** | | | | | | | | | | | |
| **Get** | ZZGT | ; |  |  |  | |  |  |  |  |  |
| **Set** | ZZGT | P1 | ; |  |  | |  |  |  |  |  |
| **Answer** | ZZGT | P1 | ; |  |  | |  |  |  |  |  |
| **Notes** | P1 values:   1. = Fixed 2. = Long 3. = Slow | | | | | 1. = Med 2. = Fast 3. = Custom | | | | | |

### ZZGU Command

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ZZGT Sets or reads the RX2 AGC thumbwheel control** | | | | | | | | | | | |
| **Get** | ZZGU | ; |  |  |  | |  |  |  |  |  |
| **Set** | ZZGU | P1 | ; |  |  | |  |  |  |  |  |
| **Answer** | ZZGU | P1 | ; |  |  | |  |  |  |  |  |
| **Notes** | P1 values:   1. = Fixed 2. = Long 3. = Slow | | | | | 1. = Med 2. = Fast 3. = 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). | | | | | | | | | |

### 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 varia** | | | **ble 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 | | | | | | | | | |

### ZZLI Command

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ZZLI Sets or reads the PureSignal (PS-A) Button status** | | | | | | | | | | |
| **Get** | ZZLI | ; |  |  |  |  |  |  |  |  |
| **Set** | ZZLI | P1 | ; |  |  |  |  |  |  |  |
| **Answer** | ZZLI | 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:   1. = LSB 2. = USB 3. = DSB 4. = CWL 5. = CWU 6. = FM | | | | | 1. = AM 2. = DIGU 3. = SPEC 4. = DIGL 5. = SAM 6. = DRM | | | | | |

### ZZME Command

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ZZME Sets or reads the RX2 Operating Mode** | | | | | | | | | | | |
| **Get** | ZZME | ; |  |  |  | |  |  |  |  |  |
| **Set** | ZZME | P1 | P1 | ; |  | |  |  |  |  |  |
| **Answer** | ZZME | P1 | P1 | ; |  | |  |  |  |  |  |
| **Notes** | P1 values:   1. = LSB 2. = USB 3. = DSB 4. = CWL 5. = CWU 6. = FM | | | | | 1. = AM 2. = DIGU 3. = SPEC 4. = DIGL 5. = SAM 6. = 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:   1. = Signal Strength 2. = Signal Average | | | | | 1. = ADC L 2. = ADC R 3. = 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:   1. = Forward Power 2. = Reverse Power 3. = Mic 4. = EQ 5. = Leveler 6. = Lev Gain | | | | | 1. = COMP 2. = CPDR 3. = ALC 4. = ALC COMP 5. = SWR 6. = 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. | | | | | | | | | |

### ZZMW Command

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **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 RX1 Noise Blanker (NB) status** | | | | | | | | | | |
| **Get** | ZZNA | ; |  |  |  |  |  |  |  |  |
| **Set** | ZZNA | P1 | ; |  |  |  |  |  |  |  |
| **Answer** | ZZNA | P1 | ; |  |  |  |  |  |  |  |
| **Notes** | P1 = 0 for off, 1 for on.  ZZNA, ZZNB encode the selected noise blanker with settings as follows:  Noise blanker off: ZZNA0; ZZNB0;  Noise blanker: ZZNA1; ZZNB0;  Noise Blanker 2: ZZNA0; ZZNB1; | | | | | | | | | |

### ZZNB Command

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ZZNB Sets or reads the RX1 Noise Blanker 2 (NB2) status** | | | | | | | | | | |
| **Get** | ZZNB | ; |  |  |  |  |  |  |  |  |
| **Set** | ZZNB | P1 | ; |  |  |  |  |  |  |  |
| **Answer** | ZZNB | P1 | ; |  |  |  |  |  |  |  |
| **Notes** | P1 = 0 for off, 1 for on.  ZZNA, ZZNB encode the selected noise blanker with settings as follows:  Noise blanker off: ZZNA0; ZZNB0;  Noise blanker: ZZNA1; ZZNB0;  Noise Blanker 2: ZZNA0; ZZNB1; | | | | | | | | | |

### 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.  ZZNC, ZZND encode the selected noise blanker with settings as follows:  Noise blanker off: ZZNC0; ZZND0;  Noise blanker: ZZNC1; ZZND0;  Noise Blanker 2: ZZNC0; ZZND1; | | | | | | | | | |

### 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.  ZZNC, ZZND encode the selected noise blanker with settings as follows:  Noise blanker off: ZZNC0; ZZND0;  Noise blanker: ZZNC1; ZZND0;  Noise Blanker 2: ZZNC0; ZZND1; | | | | | | | | | |

### 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. | | | | | | | | | |

### ZZNN Command

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ZZNN Sets or reads the RX1 Spectral Noise Blanker (SNB) status** | | | | | | | | | | |
| **Get** | ZZNN | ; |  |  |  |  |  |  |  |  |
| **Set** | ZZNN | P1 | ; |  |  |  |  |  |  |  |
| **Answer** | ZZNN | P1 | ; |  |  |  |  |  |  |  |
| **Notes** | P1 = 0 for off, 1 for on. | | | | | | | | | |

### ZZNO Command

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ZZNO Sets or reads the RX1 Spectral Noise Blanker (SNB) status** | | | | | | | | | | |
| **Get** | ZZNO | ; |  |  |  |  |  |  |  |  |
| **Set** | ZZNO | P1 | ; |  |  |  |  |  |  |  |
| **Answer** | ZZNO | P1 | ; |  |  |  |  |  |  |  |
| **Notes** | P1 = 0 for off, 1 for on. | | | | | | | | | |

### ZZNR Command

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ZZNR Sets or reads the RX1 Noise Reduction (NR) status** | | | | | | | | | | |
| **Get** | ZZNR | ; |  |  |  |  |  |  |  |  |
| **Set** | ZZNR | P1 | ; |  |  |  |  |  |  |  |
| **Answer** | ZZNR | P1 | ; |  |  |  |  |  |  |  |
| **Notes** | P1 = 0 for off, 1 for on.  ZZNR, ZZNS encode the selected noise reduction with settings as follows:  NR off: ZZNR0; ZZNS0;  NR: ZZNR1; ZZNS0;  NR 2: ZZNR0; ZZNS1; | | | | | | | | | |

### ZZNS Command

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ZZNS Sets or reads the RX1 Noise Reduction 2 (NR2) status** | | | | | | | | | | |
| **Get** | ZZNS | ; |  |  |  |  |  |  |  |  |
| **Set** | ZZNS | P1 | ; |  |  |  |  |  |  |  |
| **Answer** | ZZNS | P1 | ; |  |  |  |  |  |  |  |
| **Notes** | P1 = 0 for off, 1 for on.  ZZNR, ZZNS encode the selected noise reduction with settings as follows:  NR off: ZZNR0; ZZNS0;  NR: ZZNR1; ZZNS0;  NR 2: ZZNR0; ZZNS1; | | | | | | | | | |

### ZZNT Command

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ZZNT Sets or reads the RX1 Auto Notch Filter (ANF) status** | | | | | | | | | | |
| **Get** | ZZNT | ; |  |  |  |  |  |  |  |  |
| **Set** | ZZNT | P1 | ; |  |  |  |  |  |  |  |
| **Answer** | ZZNT | P1 | ; |  |  |  |  |  |  |  |
| **Notes** | P1 = 0 for off, 1 for on. | | | | | | | | | |

### ZZNU Command

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ZZNU Sets or reads the RX2 Auto Notch Filter (ANF) status** | | | | | | | | | | |
| **Get** | ZZNU | ; |  |  |  |  |  |  |  |  |
| **Set** | ZZNU | P1 | ; |  |  |  |  |  |  |  |
| **Answer** | ZZNU | P1 | ; |  |  |  |  |  |  |  |
| **Notes** | P1 = 0 for off, 1 for on. | | | | | | | | | |

### ZZNV Command

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ZZNV Sets or reads the RX2 Noise Reduction (NR) status** | | | | | | | | | | |
| **Get** | ZZNV | ; |  |  |  |  |  |  |  |  |
| **Set** | ZZNV | P1 | ; |  |  |  |  |  |  |  |
| **Answer** | ZZNV | P1 | ; |  |  |  |  |  |  |  |
| **Notes** | P1 = 0 for off, 1 for on.  ZZNV, ZZNW encode the selected noise reduction with settings as follows:  NR off: ZZNV0; ZZNW0;  NR: ZZNV1; ZZNW0;  NR 2: ZZNV0; ZZNW1; | | | | | | | | | |

### ZZNW Command

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ZZNW Sets or reads the RX2 Noise Reduction 2 (NR) status** | | | | | | | | | | |
| **Get** | ZZNW | ; |  |  |  |  |  |  |  |  |
| **Set** | ZZNW | P1 | ; |  |  |  |  |  |  |  |
| **Answer** | ZZNW | P1 | ; |  |  |  |  |  |  |  |
| **Notes** | P1 = 0 for off, 1 for on.  ZZNV, ZZNW encode the selected noise reduction with settings as follows:  NR off: ZZNV0; ZZNW0;  NR: ZZNV1; ZZNW0;  NR 2: ZZNV0; ZZNW1; | | | | | | | | | |

## 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. | | | | | | | | | |

### 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 | | | | | | | | | |

### 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. | | | | | | | | | |

### 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 value | | SDR-1000 | | | FLEX5000x | | FLEX3000 | | | FLEX1500 | | | HPSDR | |
| 0 | | Off | | | Off | | Attn | | | -10 | | | -20dB | |
| 1 | | Low | | | On | | Off | | | 0 | | | 0dB | |
| 2 | | Med | | |  | | Pre1[1] | | | +10 | | | -10dB | |
| 3 | | High | | |  | | Pre2[1] | | | +20 | | | - | |
| 4 | | +30 | | |  | |  | | |  | | | -30dB | |
|  | [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** | | | | | | | | | | |
| **Get** | ZZPB | ; |  |  |  |  |  |  |  |  |
| **Set** | ZZPB | P1 | ; |  |  |  |  |  |  |  |
| **Answer** | ZZPB | P1 | ; |  |  |  |  |  |  |  |
| **Notes** | Pre V3.3.6: P1 = 0 for off, 1 for on.  From V3.3.6 onwards: Provides attenuation setting in 10dB steps  P1=1: 0dB; P1= 2: -10dB; P1=0: -20dB; P1=4: -30dB | | | | | | | | | |

### 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:   1. = Signal Strength 2. = Average Strength 3. = ADC\_L 4. = ADC\_R 5. = ALC 6. = Forward Power 7. = Peak Power no longer used, will return “?;” 8. = 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   1. = special default for 50 Hz   0010 = 10e2 = 100 Hz   1. = special default for 250 Hz 2. = special default for 500 Hz   0011 = 10e3 = 1 kHz   1. = 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. | | | | | | | | | |

### 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. | | | | | | | | | |

### 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. | | | | | | | | | |

### 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:   1. = 67.0 21 = 131.8 41 = 206.5 2. = 69.3 22 = 136.5 42 = 210.7 3. = 71.9 23 = 141.3 43 = 218.1 4. = 74.4 24 = 146.2 44 = 225.7 5. = 77.0 25 = 151.4 45 = 229.1 6. = 79.7 26 = 156.7 46 = 233.6 7. = 82.5 27 = 159.8 47 = 241.8 8. = 85.4 28 = 162.2 48 = 250.3 9. = 88.5 29 = 165.5 49 = 254.1 10. = 91.5 30 = 167.9 11. = 94.8 31 = 171.3 12. = 97.4 32 = 173.8 13. = 100.0 33 = 177.3 14. = 103.5 34 = 179.9 15. = 107.2 35 = 183.5 16. = 110.9 36 = 186.2 17. = 114.8 37 = 189.9 18. = 118.8 38 = 192.8 19. = 123.0 39 = 199.5 20. = 127.3 40 = 203.5 | | | | | | | | | |

### 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   1. = DX/Contest 2. = 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. | | | | | | | | | |

### ZZUS Command

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ZZUS Initiates a PureSignal single CAL function** | | | | | | | | | | |
| **Set** | ZZUS | ; |  |  |  |  |  |  |  |  |
| **Notes** | Initiated with a command ZZUS; returns no response.  ZZUS is read-only. | | | | | | | | | |

### ZZUT Command

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ZZUT Turns a two-tone test on or off.** | | | | | | | | | | |
| **Get** | ZZUT | ; |  |  |  |  |  |  |  |  |
| **Set** | ZZUT | P1 | ; |  |  |  |  |  |  |  |
| **Answer** | ZZUT | P1 | ; |  |  |  |  |  |  |  |
| **Notes** | P1 = 0 for off, 1 for on. | | | | | | | | | |

### ZZUX Command

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ZZUX Sets or reads the VFO A Lock status** | | | | | | | | | | |
| **Get** | ZZUX | ; |  |  |  |  |  |  |  |  |
| **Set** | ZZUX | P1 | ; |  |  |  |  |  |  |  |
| **Answer** | ZZUX | P1 | ; |  |  |  |  |  |  |  |
| **Notes** | P1 = 0 for off, 1 for on. | | | | | | | | | |

### ZZUY Command

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ZZUY Sets or reads the VFO B Lock status** | | | | | | | | | | |
| **Get** | ZZUY | ; |  |  |  |  |  |  |  |  |
| **Set** | ZZUY | P1 | ; |  |  |  |  |  |  |  |
| **Answer** | ZZUY | P1 | ; |  |  |  |  |  |  |  |
| **Notes** | P1 = 0 for off, 1 for on. | | | | | | | | | |

## 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 :   1. = 6000 2. = 8000 3. = 11025 4. = 12000 5. = 24000 | | | | | 1. = 22050 2. = 44100 3. = 48000 4. = 96000 5. = 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.  Function changed from V3.4.8: ZZVL implements a round-robin toggle for VFO A and B locks: Unlocked, VFOA locked, VFOA&B locked, Unlocked.  Separate commands have been added for independent access to VFO A and B locks– ZZUX and ZZUY. | | | | | | | | | |

### 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:   1. = A>B 2. = A<B 3. = 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 :   1. = 6000 2. = 8000 3. = 11025 4. = 12000 5. = 24000 | | | | | 1. = 22050 2. = 44100 3. = 48000 4. = 96000 5. = 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 :   1. = 512 2. = 1024 3. = 2048 | | | | | | | | | |

### ZZVZ Command

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ZZVY Sets or reads the VAC2 Buffer Size** | | | | | | | | | | |
| **Get** | ZZVZ | ; |  |  |  |  |  |  |  |  |
| **Set** | ZZVZ | P1 | ; |  |  |  |  |  |  |  |
| **Answer** | ZZVZ | P1 | ; |  |  |  |  |  |  |  |
| **Notes** | P1 :   1. = 512 2. = 1024 3. = 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. | | | | | | | | | |

### ZZXH Command

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ZZXH Sets or reads the VOX Delay (Hang) value** | | | | | | | | | | |
| **Get** | ZZXH | ; |  |  |  |  |  |  |  |  |
| **Set** | ZZXH | P1 | P1 | P1 | P1 | ; |  |  |  |  |
| **Answer** | ZZXH | P1 | P1 | P1 | P1 | ; |  |  |  |  |
| **Notes** | P1 = 0000 to 4000. This is the “hang” time in milliseconds. | | | | | | | | | |

### ZZXN Command

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ZZXN Reads the Combined RX 1 Status** | | | | | | | | | | |
| **Get** | ZZXN | ; |  |  |  |  |  |  |  |  |
| **Answer** | ZZXN | P1 | P1 | P1 | P1 | ; |  |  |  |  |
| **Notes** | P1 = 0000 to 8191. This combines settings for NB1/2, NR1/2, SNB, ANF, AGC, Atten, Squelch into a single 13 bit binary word.  Bits 2-0: AGC Speed (see ZZGT)  Bits 5-3: Attenuation (see ZZPA)  Bit 6: Squelch on/off (see ZZSO)  Bit 7: NB0 (see ZZNA)  Bit 8: NB1 (see ZZNB)  Bit 9: NR0 (see ZZNR)  Bit 10: NR1 (see ZZNS)  Bit 11: SNB (see ZZNN)  Bit 12: ANF (see ZZNT)  ZZXN is read-only. | | | | | | | | | |

### ZZXO Command

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ZZXO Reads the Combined RX 2 Status** | | | | | | | | | | |
| **Get** | ZZXO | ; |  |  |  |  |  |  |  |  |
| **Answer** | ZZXO | P1 | P1 | P1 | P1 | ; |  |  |  |  |
| **Notes** | P1 = 0000 to 8191. This combines settings for NB1/2, NR1/2, SNB, ANF, AGC, Atten, Squelch into a single 13 bit binary word.  Bits 2-0: AGC Speed (see ZZGU)  Bits 5-3: Attenuation (see ZZPB)  Bit 6: Squelch on/off (see ZZSV)  Bit 7: NB0 (see ZZNC)  Bit 8: NB1 (see ZZND)  Bit 9: NR0 (see ZZNV)  Bit 10: NR1 (see ZZNW)  Bit 11: SNB (see ZZNO)  Bit 12: ANF (see ZZNU)  ZZXO is read-only. | | | | | | | | | |

### 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. | | | | | | | | | |

### ZZXV Command

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ZZXV Reads the Combined VFO Status** | | | | | | | | | | |
| **Get** | ZZXV | ; |  |  |  |  |  |  |  |  |
| **Answer** | ZZXV | P1 | P1 | P1 | ; |  |  |  |  |  |
| **Notes** | P1 = 0000 to 255. This combines settings for RIT, LOCK, SPLIT, CTUNE, MOX and TUNE into a single 7 bit binary word.  Bit 0: RIT on/off (see ZZRT)  Bit 1: VFO A LOCK status (see ZZUX)  Bit 2: VFO B LOCK status (see ZZUY)  Bit 3: SPLIT status (see ZZSP)  Bit 4: VFO A CTUNE status (see ZZCN)  Bit 5: VFO B CTUNE status (see ZZCO)  Bit 6: MOX status (see ZZTX)  Bit 7: TUNE status (see ZZTU)  ZZXV is read-only. | | | | | | | | | |

## 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. | | | | | | | | | |

### ZZZZ Command

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ZZZZ Close the CAT Serial Port, terminating the connection** | | | | | | | | | | |
| **Set** | ZZZZ | ; |  |  |  |  |  |  |  |  |
| **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:   1. = 67.0 21 = 131.8 41 = 206.5 2. = 69.3 22 = 136.5 42 = 210.7 3. = 71.9 23 = 141.3 43 = 218.1 4. = 74.4 24 = 146.2 44 = 225.7 5. = 77.0 25 = 151.4 45 = 229.1 6. = 79.7 26 = 156.7 46 = 233.6 7. = 82.5 27 = 159.8 47 = 241.8 8. = 85.4 28 = 162.2 48 = 250.3 9. = 88.5 29 = 165.5 49 = 254.1 10. = 91.5 30 = 167.9 11. = 94.8 31 = 171.3 12. = 97.4 32 = 173.8 13. = 100.0 33 = 177.3 14. = 103.5 34 = 179.9 15. = 107.2 35 = 183.5 16. = 110.9 36 = 186.2 17. = 114.8 37 = 189.9 18. = 188.8 38 = 192.8 19. = 123.0 39 = 199.5 20. = 127.3 40 = 203.5 | | | | | | | | | |

### 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 | | | | | 1. = AM 2. = RTTY (DIGL) 3. = 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 Command

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **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 Command

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **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   1. = 1400 2. = 1600 3. = 1800 4. = 2000 5. = 2200 6. = 2400 7. = 2600 8. = 2800 9. = 3000 10. = 3400 11. = 4000 12. = 5000 | | | | | DSB Modes (AM, DSB, FM, DRM, SAM)   1. = 2500 2. = 3000 3. = 4000 4. = 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   1. = 0 2. = 50 3. = 100 4. = 200 5. = 300 6. = 400 7. = 500 8. = 600 9. = 700 10. = 800 11. = 900 12. = 1000 | | | | | DSB Modes (AM, DSB, FM, DRM, SAM)   1. = 0 2. = 100 3. = 200 4. = 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      August 25, 2007 Revisions: | | DSP Filter Width | |
| Updated MD | | Added MD9 for DigU | |
| Added KY | | Send Morse | |
| KS    September 16, 2007 Changes: | | Get/Set Morse speed | |
| Updated GT | | Added 005 for “Custom” | |
| ZZIF | | Removed P1 to match IF | |
| ZZMT | | Added new meter functions | |
|  | ZZPA | Added FLEX5000 values | |
| Added: | ZZVS | Added IF -> V | |
| 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    January 30, 2008 Changes | Reads or sets the RX2 Button |
| 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    February 3, 2010 Changes | Move VFO B one tune step up |
| Added ZZVI | Set or read the VAC input cable |
| ZZVM | Set or read the VAC driver |
| ZZVO    February 24, 2010 Changes | Set or read the VAC output cable |
| Added ZZRV    April 1, 2010 Changes | Reads the primary input voltage |
| Added ZZBY    April 5, 2010 Changes | Closes the console |
| 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  Deprecated ZZST    April 11, 2010 Changes | Moves VFO B up by a selected step size |
| Modified ZZFM    April 22, 2010 Changes | Added FLEX3000 and FLEX1500 to models. |
| Modified ZZRM    April 29, 2010 Changes | Added FnK models, removed Peak Power. |
| Added ZZKM    August 20, 2010 Changes | Sends a CWX macro. |
| 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    October 17, 2010 Changes | Added values for FLEX1500 |  |
| Added: ZZTM | Set/Read the AF TX Monitor |  |
| Changed: ZZVN    December 7, 2010 Changes | Extended length to 12 characters |  |
| 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    March 6, 2011 Changes: | Sets or reads the RX2 AGC-T control | |
| Added ZZPY    April 12, 2011 Changes: | Sets or reads the Display Zoom slider | |
| 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    May 1, 2011 Changes: | Corrected typo | |
| Added ZZPE    May 5, 2011 Changes: | Sets or reads the Display Pan Position | |
| Added ZZKO    June 26, 2011 Changes: | Opens or closes the CWX Form | |
| 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    July 8, 2011 Changes: | | Changed nomenclature to Enhanced Signal Clarity | |
| Modified ZZOA | | Corrected typo | |
| ZZFI | | Deleted FMN mode | |
| ZZFJ | | Delete FMN mode, DSP filter selections removed from | |
|  | | console | |
| July 13, 2011 Changes: | | Replaced all instances of FMN with FM | |
| 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, | |
| July 16, 2011 Changes: | | ZZWS, ZZWT, ZZWU, ZZWV, ZZWW | |
| 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    August 1, 2001 Changes: | | Sets or reads the FM Deviation button | |
| 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    August 9, 2011 Changes: | | Saves configuration to an existing memory channel | |
| 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.

## Revision 3 Changes

### 3.x (unknown version & date)

* Added CAT command ZZZZ

### 3.3.6 (2015-11-16)

* Added CAT command for Spectral Noise Blanker
  + ZZNN RX1
  + ZZNO RX2.
* Extended CAT command ZZPB to set & get 10dB, 20dB, and 30dB settings.

### 3.3.14 (2017-3-26)

* Added the following CAT Commands: --
  + ZZLI - Sets or Reads the PureSignal (PS-A) button status –
  + ZZNS - Sets or Reads the RX1 NR2 button status –
  + ZZNV - Sets or Reads the RX2 NR button status –
  + ZZNW - Sets or Reads the RX2 NR2 button status

### 3.4.1 (2017-4-1)

* Four new CAT commands have been added to support the CW Audio Peaking Filter: --
  + ZZAP Audio Peaking Filter On/Off –
  + ZZAT APF Tune –
  + ZZAB APF Bandwidth –
  + ZZAA APF Gain

### 3.4.8 (2018-3-2)

CAT interface: Added two functions to individually lock the two VFOs:

* ZZUX and ZZUY locks/unlocks VFOA and VFOB, respectively. 1=lock, 0=unlock
* ZZVL now implements a round-robin toggle for VFO locks: Unlocked, VFOA locked, VFOA&B locked, Unlocked.
* ZZUS initiates a PureSignal single cal function
* ZZUT turns a two-tone test on or off (1 or 0)
* ZZGU sets RX2 AGC speed
* ZZAF,ZZAE sets VFOA N tune steps up,down respectively
* ZZBF,ZZBE sets VFOB N tune steps up,down respectively
* ZZXH sets VOX delay
* ZZCN/CO sets VFO A/B CTUN state
* ZZNU sets RX2 ANF state
* ZZXN gets combined RX1 status
* ZZXO gets combined RX2 status
* ZZXV gets combined VFO status
* Documentation for ZZAC, ZZAD, ZZAU, ZZBM, ZZBP changed to reflect revised step sizes