SETUP MENU

Standard Menu:

LSB/USB Auto Select	If enabled, the appropriate sideband mode for SSB and FreeDV is chosen as default for each band by its frequency.
Digital Modes	Disable appearance of digital modes when pressing Mode button.
CW Mode	Disable appearance of CW mode when pressing Mode button.
AM Mode	Disable appearance of AM mode when pressing Mode button.
SyncAM Mode	Disable appearance of SyncAM modes when pressing Mode button.
SAM PLL locking range	SAM PLL Locking Range in Hz: this determines how far up and down from the carrier frequency of an AM station we can offtune the receiver, so that the PLL will still lock to the carrier.
SAM PLL step response	Step response = Zeta = damping factor of the SAM PLL. Sets the stability and transient response of the PLL. Larger values give faster lock even if you are offtune, but PLL is also more sensitive.
SAM PLL bandwidth in Hz	Bandwidth of the PLL loop = OmegaN in Hz: smaller bandwidth = more stable lock. FAST LOCK SAM PLL - set Step response and PLL bandwidth to large values [eg. 80 / 350]; DX (SLOW & STABLE) SAM PLL - set Step response and PLL bandwidth to small values [eg. 30 / 100].
SAM Fade Leveler	Fade leveler (in AM/SAM mode) ON/OFF. Fade leveler is helpful in situations with very fast QSB of the carrier flutter. It is designed to remove the rapidly changing carrier and replace it with a more stable carrier. If there is no QSB on the carrier, there is no change.
FM Mode	Disable appearance of FM mode when pressing Mode button.
FM Sub Tone Gen	Enable generation of CTCSS tones during FM transmissions.
FM Sub Tone Det	Enable detection of CTCSS tones during FM receive. RX is muted unless tone is detected.
FM Tone Burst	Enabled sending of short tone at beginning of each FM transmission. Used to open repeaters. Available frequencies are 1750 Hz and 2135 Hz.
FM Deviation	Select between normal and narrow deviation (5 and 2.5kHz) for FM RX/TX.
FreeDV Mode	Change active FreeDV mode. Please note, you have to reboot to activate new mode.
FreeDV Squelch threshold	If not OFF, FreeDV will squelch if detected SNR is below set value.
AGC WDSP Mode	Choose a bundle of preset AGC parameters for the WDSP AGC: FAST / MED / SLOW / LONG / very LONG or switch OFF the AGC.
AGC WDSP Slope	Slope of the AGC is the difference between the loudest signal and the quietest signal after the AGC action has taken place. Given in dB.
AGC WDSP Decay	Time constant for the AGC decay (speed of recovery of the AGC gain) in milliseconds.
AGC WDSP Threshold	Threshold = Knee of the AGC: input signal level from which on the AGC action takes place. AGC threshold should be placed/adjusted just above the band noise for every particular RX situation to allow for optimal AGC action. The blue AGC box indicates when AGC action takes place and helps in adjusting this threshold.
AGC WDSP Hang enable	Enable/Disable Hang AGC function: If enabled: after the signal has decreased, the gain of the AGC is held constant for a certain time period (the hang time) in order to allow for speech pauses without disturbing noise because of fast acting AGC.
AGC WDSP Hang time	Hang AGC: hang time is the time period over which the AGC gain is held constant when in AGC Hang mode. After this period the gain is increased fast.
AGC WDSP Hang threshold	Threshold for the Hang AGC: Hang AGC is useful for medium to strong signals. The Hang threshold determines the signal strength a signal has to exceed for Hang AGC to take place.
AGC WDSP Hang Decay	Time constant for the Hang AGC decay (speed of recovery of the AGC gain after hang time has expired) in milliseconds.
RX Codec Gain	Sets the Codec IQ signal gain. Higher values represent higher gain. If set to AUTO the mcHF controls the gain so that the best dynamic range is used.
RX/TX Freq Xlate	Controls offset of the receiver IQ signal base frequency from the dial frequency. Use of +/-12Khz is recommended. Switching it to OFF is not recommended as it disables certain features.

Configuration Menu:

Backup Config	Backup your I2C Configuration to flash. If you don't have suitable I2C EEPROM installed this function is not available.
Restore Config	Restore your I2C Configuration from flash. If you don't have suitable I2C EEPROM installed this function is not available.
Rst Conf EEPROM	Clear the EEPROM so that at next start all stored configuration data is reset to the values stored in Flash (see Backup/Restore).
RstEEPROM&KeepConf	Clear the EEPROMi signature but keep all config values. This is mainly for debugging purposes).
Band Definition	Select which band definition to use for ham bands (Original UHSDR or IARU Region 1 - 3").
Save Out-Of-Band Freq.	Select ON to save and restore frequencies which do not fit into the band during configuration saving (Power-Off or long press on Menu button).
TX on Out-Of-Band Freq.	Permit low power transmission even if the frequency is out of the official ham bands. DO NOT USE WITH CONNECTED ANTENNA! Use a dummy load!
Menu SW on TX disable	Control if the screen automatically adapts Encoder value focus when switching between RX and TX.
TX Mute LineOut	During transmission with frequency translation off, line out will carry one of the two signal channels. Good for CW but not very useful otherwise. You may switch this signal off here.
TX Initial Muting Time	When switching from RX to TX the audio and HF output will be muted for roughly VALUE ms. There are now several minimum times for muting defined in the firmware: Input from Mic: 40ms. Input from Line In: 40ms. Digital Inputs (CW, USB): less than 1ms. If the user defined 'TX Initial Muting Time' is set to more than zero, the maximum of both fixed input time and user defined time is used. Your microphone PTT switch is a potential source of noise if Mic is input! You need to increase the delay or change switches!
Max Volume	Set maximum speaker&headphone volume.
Lineout Gain	Set the constant gain level for the analog lineout jack.
Key Beep Frequency	Set key beep frequency in Hz.
Key Beep Volume	Set key beep volume.
CAT Running In Sandbox	If On, frequency Changes made via CAT will not automatically switch bands and affect the manually selected frequencies.
CAT-DIQ-FREQ-XLAT	Select which frequency is reported via CAT Interface to the connected PC in Digital IQ Mode. If ON, it reports the displayed frequency. If OFF, it reports the center frequency, which is more useful with SDR programs.
PTT via virtual RTS	The virtual serial port signal RTS can be used to switch to TX. Use with care, many CAT-able programs also set RTS to aktiv and make the TRX go to TX mode.
XVTR Offs/Mult	When connecting to a transverter, set this to 1 and set the XVERTER Offset to the LO Frequency of it. The mcHF frequency is multiplied by this factor before the offset is added, so anything but 1 will result in each Hz in the mcHF being displayed as 2 to 10 Hz change on display.
XVTR Offs. RX	When transverter mode is enabled, this value is added to the mcHF frequency after being multiplied with the XVTR Offs/Mult. Use Step+ to set a good step width, much less turns with the dial knob if it is set to 10 Mhz.
XVTR Offs. TX	When transverter mode is enabled, this value is added to the displayed mcHF TX frequency after being multiplied with the XVTR Offs/Mult. Setting it to 0 uses RX offset for TX. Use Step+ to set a good step width, much less turns with the dial knob if it is set to 10 Mhz.
Step Button Swap	If ON, Step- behaves like Step+ and vice versa.
Band+/- Button Swap	If ON, Band- behaves like Band+ and vice versa.
Band+/- BndCh/Jump Swap	If ON, LongAction of Band+/- is band change, ShortAction is jump by freq on panorama width.
Encoders 1-3 Reverse	If ON, encoders 1,2,3 are reversed.
Encoder 4 Reverse	If ON, encoder 4 are reversed.
Voltmeter Cal.	Adjusts the displayed value of the voltmeter.
Low Voltage Threshold	Voltage threshold for voltage warning colors and auto shutdown.
Low Voltage Shutdown	Shutdown automatically when supply voltage is below threshold for 60 seconds (only in RX).
Freq. Calibrate	Adjust the frequency correction of the local oscillator. Measure TX frequency and adjust until both match. Or use receive a know reference signal and zero-beat it and then adjust. More information in the Wiki.
Pwr. Det. Null	Set the forward and reverse power sensors ADC zero power offset. This setting is enabled ONLY when Disp. Pwr (mW), is enabled. Needs SWR meter hardware modification to work. See Wiki Adjustment and Calibration.

SWR/PWR Meter FWD/REV Swap	Exchange the assignment of the Power/SWR FWD and REV measurement ADC. Use if your power meter does not show anything during TX.
I2C1 Bus Speed	Sets speed of the I2C1 bus (Si570 oscillator and MCP9801 temperature sensor). Higher speeds provide quicker RX/TX switching but may also cause tuning issues (red digits). Be careful with speeds above 200 kHz.
I2C2 Bus Speed	Sets speed of the I2C2 bus (Audio Codec and I2C EEPROM). Higher speeds provide quicker RX/TX switching, configuration save and power off. Speeds above 200 kHz are not recommended for unmodified mcHF. Many modified mcHF seem to run with 300kHz without problems.
RX IQ Auto Correction	Receive IQ phase and amplitude imbalance can be automatically adjusted by the mcHF. Switch ON/OFF here. If OFF, it takes the following menu values for compensating the imbalance. The automatic algorithm achieves up to 60dB mirror rejection. See Wiki Adjustments and Calibration.
RX IQ Balance (80m)	IQ Balance Adjust for all receive if frequency translation is NOT OFF. Requires USB/LSB/CW mode to be changeable.
RX IQ Phase (80m)	IQ Phase Adjust for all receive if frequency translation is NOT OFF. Requires USB/LSB/CW mode to be changeable.
RX IQ Balance (10m)	IQ Balance Adjust for all receive if frequency translation is NOT OFF. Requires USB/LSB/CW mode to be changeable.
RX IQ Phase (10m)	IQ Phase Adjust for all receive if frequency translation is NOT OFF. Requires USB/LSB/CW mode to be changeable.
RX NB Setting	Set the Noise Blanker strength. Higher values mean more agressive blanking. Also changeable using Encoder 2 if Noise Blanker is active.
DSP Notch ConvRate	DSP LMS automatic notch filter: convolution rate.
DSP Notch BufLen	DSP LMS automatic notch filter: length of the audio buffer that is used for simulation of a reference for the LMS algorithm. The longer the buffer, the better -and the slower- the performance, but this buffer length must always be larger than the number of taps in the FIR filter used. Thus, a larger buffer (and larger FIR filter) uses more MCU resources.
DSP Notch FIRNumTap	DSP LMS automatic notch filter: Number of taps in the DSP automatic notch FIR filter. The larger the number of taps in the filter, the better the performance, but the slower the performance of the filter and the mcHF.
NR Show gains	Debugging: show gains of spectral noise reduction.
NR Strength	Set the Noise Reduction Strength. Higher values mean more agressive noise reduction but also higher CPU load. Use with extreme care. Also changeable using Encoder 2 if DSP is active.
NR beta	Time constant beta for spectral noise reduction, leave at 0.85.
NR asnr	Devel 2 NR: asnr.
NR smooth wd.	Devel 2 NR: width of gain smoothing window.
NR smooth thr.	Devel 2 NR: threhold for gain smoothing.
ANR after AGC	DSP LMS noise reduction: Perform the DSP LMS noise reduction BEFORE or AFTER the AGC. NO = before AGC, YES = after AGC.
ANR num taps	Number of taps of leaky LMS noise reduction.
ANR corr. delay	Delay correlation length of leaky LMS noise reduction.
ANR gain	Gain of leaky LMS noise reduction.
ANR leak	Leak of leaky LMS noise reduction.

Display Menu:

320x240 Def.Wide Spectrum	Wide mode of spectrum on screen 320x240 is default.
LCD Auto Blank	After x seconds LCD turns dark and LCD data sections stop. So power consumption is decreased and RX hum is decreased, too. LCD operation starts when using any button or the touchscreen.
Show Tune Helper	Graphical tune helper: adjust frequency until yellow vertical line is in centre of green box --> right on CW carrier frequency.
Step Size Marker	If enabled, you'll see a line under the digit which is currently representing the selected tuning step size.
Don't Show BndMem	Don't show BndMemory.
Clear Panoram on TX	Clear panoram on TX/TUNE.
Filter BW Display	Colour of the horizontal Filter Bandwidth indicator bar.
Spectrum Size	Change height of spectrum display.
Spectrum Filter	Lowpass filter for the spectrum FFT. Low values: fast and nervous spectrum; High values: slow and calm spectrum.
Spec FreqScale Colour	Colour of the small frequency digits under the spectrum display.

TX Carrier Colour	Colour of the vertical line indicating the TX carrier frequency in the spectrum or waterdall display.
Scope Light	The scope uses bars (NORMAL) or points (LIGHT) to represent data. LIGHT is a little less resource intensive.
Scope 1/Speed	Lower Values: Higher refresh rate. Set to 0 to disable scope.
Scope AGC Adj.	Adjusting of scope / waterfall AGC for fitting graphs to screen.
Scope Trace Colour	Set colour of scope.
Scope BW Trace Colour	Set colour of highlighted BW scope.
Scope BW BCKgr Colour	Set colour of highlighted BW background.
Scope Grid Colour	Set colour of scope grid.
Scope Div.	Set rf range for scope.
Wfall 1/Speed	Lower Values: Higher refresh rate. Set to 0 to disable waterfall.
Wfall Colours	Select colour scheme for waterfall display.
Wfall Step Size	How many lines are moved in a single screen update.
Wfall Contrast	Adjust to fit your personal input level range to displayable colour range for waterfall.
Upper Meter Colour	Set the colour of the scale of combined S/Power-Meter.
Lower Meter Colour	Set the colour of the scale of combined SWR/AUD/ALC-Meter.
Boxes Colour	Screen boxes colour.
Ticker Colour	Ticker colour.
dBm display	RX signal power (measured within the filter bandwidth) can be displayed in dBm or normalized as dBm/Hz. This value is supposed to be quite accurate to +-3dB. Preferably use low spectrum display magnify settings. Accuracy is lower for very very weak and very very strong signals.
dBm calibrate	dBm display calibration. Just an offset (in dB) that is added to the internally calculated dBm or dBm/Hz value.
S-Meter Attack	Attack controls how quickly the S-Meter reacts to rising signal levels, higher values represent quicker reaction.
S-Meter Decay	Decay controls how quickly the S-Meter reacts to falling signal levels, higher values represent quicker reaction.
Peak Ind. Timer, ms	Tune/OFF S/PWR meter peak indicator.
S-Meter NotLO in AM	Don't calculate LO in AM mode.
TCXO Off/On/Stop	The software TCXO can be turned ON (set frequency is adjusted so that generated frequency matches the wanted frequency); OFF (no correction or measurement done); or STOP (no correction but measurement).
TCXO Temp. (C/F)	Show the measure TCXO temperature in Celsius or Fahrenheit.
RTC Start	Start using the RTC and use the modified button layout. Will reboot your mcHF. Please use only if you completed the RTC mod otherwise you will need to disconnect battery and power and reboot to get a working mcHF. This menu is only visible if Backup RAM (VBat) was detected.
RTC Hour	Sets the Real Time Clock Hour. Needs HW Modifications.
RTC Min	Sets the Real Time Clock Minutes. Needs HW Modifications.
RTC Seconds	Sets the Real Time Clock Seconds. Needs HW Modifications.
RTC Reset	Full Reset of STM32 RTC. Can be used to simulate first start with RTC mod completed.
RTC Calibration	Sets the Real Time Clock Frequency calibration value in ppm. 1s/day deviation equals 11.57 ppm deviation.
Freq display font	Font selection for frequency display. Allows selection of old/modern fonts.
Menu Inverse Scrolling	Inverts Enc2/Enc3 behavior in menu up/down and show/hide UI scrolling actions, used for side-mounted encoder dials.

CW Mode Settings:

CW Keyer Mode	Select how the mcHF interprets the connected keyer signals. Supported modes: Iambic A and B Keyer (IAM A/B), Straight Key (STR_K), and Ultimatic Keyer (ULTIM).
CW Keyer Speed	Keyer Speed for the automatic keyer modes in WpM. Also changeable via Encoder 3 if in CW Mode.
CW Keyer Weight	Keyer Dit/Pause ratio for the automatic keyer modes. Higher values increase length of dit, decreases length of pause so that the total time is still according to the set WpM value.
CW Sign.Eg.Smooth, ms	Smooth of CW signal edges.
CW Sidetone Gain	Audio volume for the monitor sidetone in CW TX. Also changeable via Encoder 1 if in CW Mode.
CW Side/Offset Freq	Sidetone Frequency (also Offset frequency, see CW Freq. Offset below).

CW Paddle Reverse	Dit is Dah and Dah is Dit. Use if your keyer needs reverse meaning of the paddles.
CW TX->RX Delay	How long to stay in CW TX mode after stop sending a signal.
CW Freq. Offset	TX: display is TX frequency if received frequency was zero-beated. DISP: display is RX frequency if received signal is matched to sidetone. SHIFT: LO shifts, display is RX frequency if signal is matched to sidetone.
CW LSB/USB Select	Set appropriate sideband mode for CW. If AUTO, sideband is chosen for bands by its frequency. A long press on Mode button gets the other sideband mode.
CW decoder enable	Enable experimental CW decoding.
Signal threshold	All signals above this threshold are intepreted as a dit or daah.
Blocksize for Goertzel	How many samples are taken for the signal detection with the Goertzel algorithm?
Noise cancel	Enable/disable noise canceler for CW decoder.
Spike cancel	Enable/disable spike canceler or short cancel for CW decoder.
AGC for decoder	Enable/disable AGC for CW decoder.
Show CW LED	Enable/disable LED for CW decoder.
CW MacroCycledInterv, sec.	CW Macros Cycled TX interval, sec.
CW Beacon Interval, min.	CW Beacon interval, min.
CW Fast Macro 1,2	Enable/disable fast TXing CW macro 1 and 2.

Filter Selection:

SSB Filter 1	Filter bandwidth #1 when toggling with filter select button in LSB or USB.
SSB Filter 2	Filter bandwidth #2 when toggling with filter select button in LSB or USB.
SSB Filter 3	Filter bandwidth #3 when toggling with filter select button in LSB or USB.
SSB Filter 4	Filter bandwidth #4 when toggling with filter select button in LSB or USB.
CW Filter 1	Filter bandwidth #1 when toggling with filter select button in CW.
CW Filter 2	Filter bandwidth #2 when toggling with filter select button in CW.
CW Filter 3	Filter bandwidth #3 when toggling with filter select button in CW.
CW Filter 4	Filter bandwidth #4 when toggling with filter select button in CW.
AM/SAM Filter 1	Filter bandwidth #1 when toggling with filter select button in AM & SAM.
AM/SAM Filter 2	Filter bandwidth #2 when toggling with filter select button in AM & SAM.
AM/SAM Filter 3	Filter bandwidth #3 when toggling with filter select button in AM & SAM.
AM/SAM Filter 4	Filter bandwidth #4 when toggling with filter select button in AM & SAM.
AM TX Audio Filter	Select if AM-TX signal is filtered (strongly recommended to agree to regulations).
SSB TX Audio Filter2	Select if SSB-TX signal is filtered (strongly recommended to agree to regulations).

PA Configuration:

Transmit Disable	Disable all transmissions unconditionally. In CW you will be able to hear a sidetone but no transmission is made.
VSWR Protect.threshold	If not OFF, on TX/tune the bias of PA will be down to 0 etc when exceeding the specified value of VSWR.
Mic Type	Microphone type. Electret or Dynamic. ELECTRET is recommended. Selecting DYNAMIC when an Electret mic is present will likely cause terrible audio distortion.
Mic Input Gain	Microphone gain. Also changeable via Encoder 3 if Microphone is selected as Input.
Line Input Gain	LineIn gain. Also changeable via Encoder 3 if LineIn Left (L>L) or LineIn Right (L>R) is selected as Input.
TX Audio Compress	Control the TX audio compressor. Higher values give more compression. Set to CUSTOM for user defined compression parameters. See below. Also changeable via Encoder 1 (CMP).
TX ALC Release Time	If Audio Compressor Config is set to CUSTOM, sets the value of the Audio Compressor Release time. Otherwise shows predefined value of selected compression level.
TX ALC Input Gain	If Audio Compressor Config is set to CUSTOM, sets the value of the ALC Input Gain. Otherwise shows predefined value of selected compression level.
Tune Power Level	Select the power level for TUNE operation. May be set using the selected power level or have a fixed power level.

Tune Tone (SSB)	Select if single tone or two tone is generated during TUNE operation. Not persistent.
CW PA Bias (If >0)	If set to a value above 0, this BIAS is used during CW transmission; otherwise normal BIAS is used during CW.
Reduce Power on Low Bands	If set (recommended!) frequencies below 8Mhz (40m or lower) require higher power adjust values (four times). This permits better control of generated power on these frequencies.
Reduce Power on High Bands	If set frequencies above 8Mhz (30m or higher) require higher power adjust values (four times). This permits better control of generated power on these frequencies.
PA Bias	Defines the BIAS value of the PA. See Adjustment and Calibration for more information.
160m 5W PWR Adjust	Defines the internal power adjustment factor to achieve 5W power on this band.
80m 5W PWR Adjust	Defines the internal power adjustment factor to achieve 5W power on this band.
60m 5W PWR Adjust	Defines the internal power adjustment factor to achieve 5W power on this band.
40m 5W PWR Adjust	Defines the internal power adjustment factor to achieve 5W power on this band.
30m 5W PWR Adjust	Defines the internal power adjustment factor to achieve 5W power on this band.
20m 5W PWR Adjust	Defines the internal power adjustment factor to achieve 5W power on this band.
17m 5W PWR Adjust	Defines the internal power adjustment factor to achieve 5W power on this band.
15m 5W PWR Adjust	Defines the internal power adjustment factor to achieve 5W power on this band.
12m 5W PWR Adjust	Defines the internal power adjustment factor to achieve 5W power on this band.
10m 5W PWR Adjust	Defines the internal power adjustment factor to achieve 5W power on this band.
6m 5W PWR Adjust	Defines the internal power adjustment factor to achieve 5W power on this band.
160m Full PWR Adjust	Defines the internal power adjustment factor to achieve full power on this band.
80m Full PWR Adjust	Defines the internal power adjustment factor to achieve full power on this band.
60m Full PWR Adjust	Defines the internal power adjustment factor to achieve full power on this band.
40m Full PWR Adjust	Defines the internal power adjustment factor to achieve full power on this band.
30m Full PWR Adjust	Defines the internal power adjustment factor to achieve full power on this band.
20m Full PWR Adjust	Defines the internal power adjustment factor to achieve full power on this band.
17m Full PWR Adjust	Defines the internal power adjustment factor to achieve full power on this band.
15m Full PWR Adjust	Defines the internal power adjustment factor to achieve full power on this band.
12m Full PWR Adjust	Defines the internal power adjustment factor to achieve full power on this band.
10m Full PWR Adjust	Defines the internal power adjustment factor to achieve full power on this band.
6m Full PWR Adjust	Defines the internal power adjustment factor to achieve full power on this band.
160m Coupling Adj.	Power Meter Adjustment factor for the 160m band power values.
80m Coupling Adj.	Power Meter Adjustment factor for the 80m band power values.
40m Coupling Adj.	Power Meter Adjustment factor for the 40m and 60m band power values.
20m Coupling Adj.	Power Meter Adjustment factor for the 20m and 30m band power values.
15m Coupling Adj.	Power Meter Adjustment factor for the 15m - 12m bands power values.
10m Coupling Adj.	Power Meter Adjustment factor for the 10m band power values.
6m Coupling Adj.	Power Meter Adjustment factor for the 6m band power values.
TX IQ Balance (160m)*	Improved I/Q adjusting. IQ Balance Adjust for all transmission if frequency translation is NOT OFF. Calibrate on 1.900 MHz.
TX IQ Phase (160m)*	Improved I/Q adjusting. IQ Phase Adjust for all transmission if frequency translation is NOT OFF. Calibrate on 1.900 MHz.
TX IQ Balance (80m)	IQ Balance Adjust for all transmission if frequency translation is NOT OFF. Calibrate on 3.600 MHz.
TX IQ Phase (80m)	IQ Phase Adjust for all transmission if frequency translation is NOT OFF. Calibrate on 3.600 MHz.
TX IQ Balance (40m)*	Improved I/Q adjusting. Calibrate on 7.100 MHz.
TX IQ Phase (40m)*	Improved I/Q adjusting. Calibrate on 7.100 MHz.
TX IQ Balance (30m)*	Improved I/Q adjusting. Calibrate on 10.100 MHz.
TX IQ Phase (30m)*	Improved I/Q adjusting. Calibrate on 10.100 MHz.
TX IQ Balance (20m)	Calibrate on 14.100 MHz.
TX IQ Phase (20m)	Calibrate on 14.100 MHz.
TX IQ Balance (17m)*	Improved I/Q adjusting. Calibrate on 18.100 MHz.
TX IQ Phase (17m)*	Improved I/Q adjusting. Calibrate on 18.100 MHz.
TX IQ Balance (15m)	Calibrate on 21.100 MHz.

TX IQ Phase (15m)	Calibrate on 21.100 MHz.
TX IQ Balance (12m)*	Improved I/Q adjusting. Calibrate on 24.900 MHz.
TX IQ Phase (12m)*	Improved I/Q adjusting. Calibrate on 24.900 MHz.
TX IQ Balance (10m)	Calibrate on 28.100 MHz.
TX IQ Phase (10m)	Calibrate on 28.100 MHz.
TX IQ Balance (10mUp)	Calibrate on 29.650 MHz.
TX IQ Phase (10mUp)	Calibrate on 29.650 MHz.
TX IQ Balance (6m)	Calibrate on 52.000 MHz.
TX IQ Phase (6m)	Calibrate on 52.000 MHz.
TX IQ Balance (160m,CW)*	Improved I/Q adjusting. IQ Balance Adjust for all transmission if frequency translation is OFF. Calibrate on 1.900 MHz.
TX IQ Phase (160m,CW)*	Improved I/Q adjusting. IQ Phase Adjust for all transmission if frequency translation is OFF. Calibrate on 1.900 MHz.
TX IQ Balance (80m,CW)	IQ Balance Adjust for all transmission if frequency translation is OFF. Calibrate on 3.600 MHz.
TX IQ Phase (80m,CW)	IQ Phase Adjust for all transmission if frequency translation is OFF. Calibrate on 3.600 MHz.
TX IQ Balance (40m,CW)*	Improved I/Q adjusting. Calibrate on 7.100 MHz.
TX IQ Phase (40m,CW)*	Improved I/Q adjusting. Calibrate on 7.100 MHz.
TX IQ Balance (30m,CW)*	Improved I/Q adjusting. Calibrate on 10.100 MHz.
TX IQ Phase (30m,CW)*	Improved I/Q adjusting. Calibrate on 10.100 MHz.
TX IQ Balance (20m,CW)	Calibrate on 14.100 MHz.
TX IQ Phase (20m,CW)	Calibrate on 14.100 MHz.
TX IQ Balance (17m,CW)*	Improved I/Q adjusting. Calibrate on 18.100 MHz.
TX IQ Phase (17m,CW)*	Improved I/Q adjusting. Calibrate on 18.100 MHz.
TX IQ Balance (15m,CW)	Calibrate on 21.100 MHz.
TX IQ Phase (15m,CW)	Calibrate on 21.100 MHz.
TX IQ Balance (12m,CW)*	Improved I/Q adjusting. Calibrate on 24.900 MHz.
TX IQ Phase (12m,CW)*	Improved I/Q adjusting. Calibrate on 24.900 MHz.
TX IQ Balance (10m,CW)	Calibrate on 28.100 MHz.
TX IQ Phase (10m,CW)	Calibrate on 28.100 MHz.
TX IQ Balance (10mUp,CW)	Calibrate on 29.650 MHz.
TX IQ Phase (10mUp,CW)	Calibrate on 29.650 MHz.
TX IQ Balance (6m,CW)	Calibrate on 52.000 MHz.
TX IQ Phase (6m,CW)	Calibrate on 52.000 MHz.

Touchscreen via Menu:

RX Input State	mchf-Amber - State of RX input group.
Dynamic Tune	Toggles dynamic tune mode.
Mic/Line Select	Select the required signal input for transmit (except in CW). Also changeable via long press on M3.
Spectrum Type	Select if you want a scope-like or a waterfall-like (actually a fountain) display.
Spectrum Magnify	Select level of magnification (1x, 2x, 4x, 8x, 16x, 32x) of spectrum and waterfall display. Also changeable via touch screen. Refresh rate is much slower with high magnification settings. The dBm display has its maximum accuracy in magnify 1x setting.
Restart Codec	Sometimes there is a problem with the I2S IQ signal stream from the Codec, resulting in mirrored signal reception. Restarting the CODEC Stream will cure that problem. Try more than once, if first call did not help.
Digital Mode	Select the active digital mode (FreeDV,RTTY, ...).

System Info:

Display	Displays working mode (SPI/parallel).
Disp. Controller	Identified LCD controller chip.

Oscillator	Local oscillator type.
SI570	Startup frequency and I2C address of local oscillator Type SI570.
EEPROM	Type of serial EEPROM and its capacity.
Touchscreen	Touchscreen state.
CPU	Identification of fitted MCU.
Flash Size (kB)	Flash size of MCU.
RAM Size (kB)	RAM size of MCU.
Firmware	Firmware version.
Build	Firmware: timestamp of building.
Bootloader	Bootloader version.
RF Board	Displays the detected RF Board hardware identification.
Audio Codec Presence	Audio Codecs I2C communication successfully tested? This is not a full test of the Audio Codec functionality, it only reports if I2C communication reported no problem talking to the codec.
Audio Codec Twinpeaks Corr.	In some cases the audio codec needs to be restarted to produce correct IQ. The IQ auto correction detects this. If this fixes the problem, Done is displayed, Failed otherwise.
Backup RAM Battery	Battery Support for Backup RAM present?
Real Time Clock	Battery Supported Real Time Clock present?
LO_TX Supression DACs	LO_TX Supression DACs (0/1) are present? (Mod or mcHF-Amber).
Amber-I/Ox8	Amber - I/Ox8 PCF8574A is present?
Amber-I/Ox4	Amber - I/Ox4 PCA9536 is present?
Amber-DAC_TX_PWR	Amber - DAC MCP4725 for TX PWR reg. is present?
FW license	Display license of firmware.
HW license	Display license of hardware.

Debug/Exper. Settings:

Enable Debug Info Display	Enable debug outputs on LCD for testing purposes (touch screen coordinates, load) and audio interrupt duration indication via green led.
Pwr. F/R Display (mW)	Shows the forward and reverse power values in mW, can be used to calibrate the SWR meter.
CW Shift Keeps Signal	Enable automatic sidetone correction for CW OFFSET MODE = SHIFT. If you tuned in SSB to a CW signal around the sidetone frequency, you'll keep that signal when going to CW. Even if you switch from USB to CW-LSB etc.
TX Audio via USB	If enabled, send generated audio to PC during TX.
FT817 Clone Transmit	Will in future send out memory data to an FT817 Clone Info (to be used with CHIRP).
FT817 Clone Receive	Will in future get memory data from an FT817 Clone Info (to be used with CHIRP).
STEREO Enable	Enable stereo demodulation modes (OVI40).
Si5351a PLL Reset	Debug Setting: Select when the Si5351a does a PLL RESET.
Trigger Twinpeaks Corr.	Trigger Twinpeaks Correction Manually if IQ Auto Correction is enabled, otherwise you will see 'Not Possible'.
CB 27Mc TX Enable(max4W)	Enable transmitting (4W) on CB band 27 MHz (AM, FM, SSB, CW).
CB 26Mc TX Enable(max4W)	Enable transmitting (4W) on CB band 26 MHz (AM, FM, SSB, CW).
CB 12W SSB TX Enable	Enable transmitting 12W SSB on CB bands, where TX is open.
CB 10W TX Enable	Enable transmitting 10W for any mode on CB bands, where TX is open.
Cal.LO_TX Supression C0	Calibration of LO_TX Supression on every band via balancing of TX mixer, channel 0. (Mod or Amber).
Cal.LO_TX Supression C1	Calibration of LO_TX Supression on every band via balancing of TX mixer, channel 1. (Mod or Amber).
Smooth dynamic tune	Activate smooth dynamic tune.
Clear TX CW,RTTY,BPSK	Forming CW/RTTY/BPSK signal at intermediate frequency for clean TX.
Remember BWs on bands	Remember the filter settings of each mode in each range for the duration of the session.
Illum. of buttons	Illumination of buttons. Relevant for Amber and hybrid with the Amber-RF board, if the button illumination mode is installed on the UI board.
RF - Amber BPF Option	3 extra BPF instead of 2 on Amber-RF board.
XVTR - OFF PA	Transverter mode - blocking PA on TX. The optional 'XVTR TX' SMA connector must be soldered and connected with coaxial cable to the output of the amplifier before PA driver ('XVTR_TX' contacts).

Ext. PA Bandcode	Band code standard for external PA.
TX_PREAMP_DUC Option	Alternative POWER lewel control option ON/OFF
TX_PREAMP_DUC Vol.	Alternative POWER lewel control - DAC volume in points, 0-4096 (0-5V). HALF - 2.5V.
Disable touchscreen	Disable touchscreen actions.
Choice of F-menu	Type of F-menus selection.
Improved I/Q Adj.	Improved I/Q adjusting. Added 160, 40, 30, 17, 12m.
F6 Ind.	Amber 4" - Indication of F6 button.
F7 Ind.	Amber 4" - Indication of F7 button.
Hall of Fame:	
Let's just say thank you to these guys!	