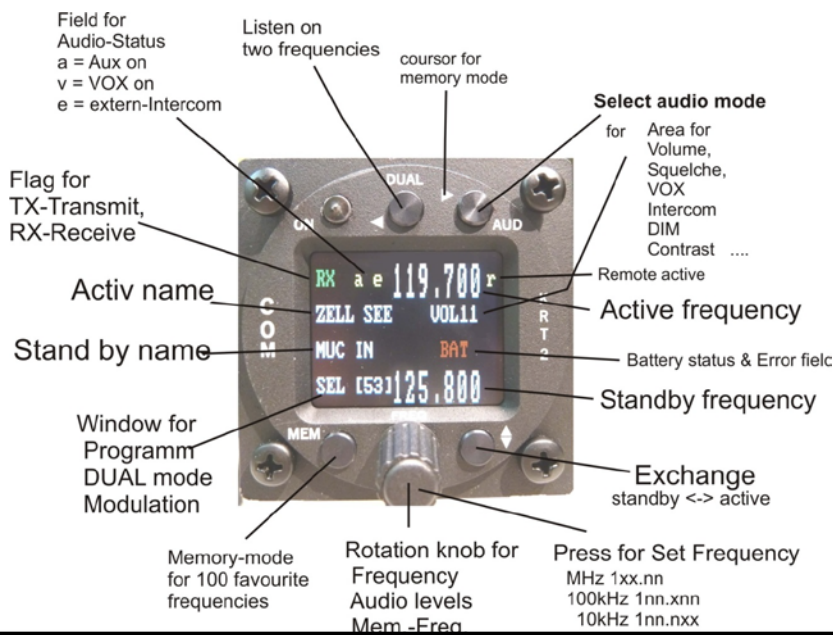




2 CONTROL general

2.1 Control Elements Overview

KTR2 i SE - VGU



ON	ON / OFF	Self-locking switch
DUAL	DUAL WATCH	<ol style="list-style-type: none"> 1. Scanning between the Active and Standby frequencies 2. Positioning cursor to the left when programming the station identifier.
AUD	AUDIO SELECT	<ol style="list-style-type: none"> 1. Stepping through the audio menues VOL SQ VOX TX INT EXT DIM CON SIT and MIC 2. Positioning cursor to the right when programming the station identifier.
MEM	FAVORITES	<ol style="list-style-type: none"> 1. Frequency and identifier selection from the favorites list 2. Programming of favorites (frequency and identifier)
	EXCHANGE	Exchange of the Active and Standby frequencies
	TURNING KNOB	<p>Pressing for Selection of the frequency range to: MHz, 100 kHz, 10 kHz Toggles between frequency and identifier when programming the favorites.</p> <p>Sets all variable values in any menu</p> <ol style="list-style-type: none"> 1. Volume settings of headsets and speakers 2. MHz/kHz selection of the standby frequency in three different ranges. 3. Favourite selection 4. Alpha character selection when programming favorites 5. Change of microphone settings

3 OPERATION

3.1 General

In the normal operating mode in which the turning knob always is connected to the volume (VOL). The normal operating mode can be left by pressing the AUD, FREQ or MEMORY button.

When not in the normal mode and there is no pilot action for more than 10 seconds the unit returns to the normal mode.

3.2 ON / OFF Switching

ON / OFF switching is done by pushing the self-locking switch.

After power up the following display will be displayed:



Device-name

KRT2

Software-

Version e.g. V8.2

(example)

The unit then starts in the normal operating mode using and displaying the data last used.

3.3 Frequency Selection

There are two different frequency selection methods:

- Direct Input
- Selection from the favourite list (index 0-99)

3.3.1 Direct Frequency Selection



The Standby-Frequency is set with the turning knob in 3 different ranges. The selected range is highlighted and can be changed with the FREQ button.

Frequency ranges are:

- 1xx.nnn
- 1nn.xnn
- 1nn.nxx

Press the FREQ button once or several times until the desired frequency range is highlighted. The unselected digits are displayed as dotted digits.

When the pointer is not next to the Standby Frequency window, it will be repositioned with the first pressing of the FREQ button. exchanges the Active and Standby frequencies.

When the Exchange button was not pressed, the Standby frequency display will return to its normal appearance after 20 seconds.

3.3.2 Frequency Selection from the Favorites List

By pressing **MEM** and operating the turning knob a specific favourite list position can be accessed [xx] (xx = index 0 ... 99). When frequency and station identifier have been defined, they will be displayed in the Standby and station identifier windows.

The favourite identifiers list identifiers can be sorted in alphabetic order (see 3.3.3 Storing and Editing Favorites).

↕ exchanges the Active and Standby frequencies.

The selection procedure can be terminated with either the AUD or FREQ buttons. Without pressing any of these buttons the unit will return to its normal operating mode after 20 seconds.

3.3.3 Storing and Editing Favorites

Any displayed Standby Frequency can be associated with an identifier and both can be stored together as favorites in the favorite list. Both the frequency and identifier of a favorite can be edited.

First press the **MEM** button and by means of the turning knob go to the desired favourite list position which may be empty or the favourite to be edited using the turning knob (index [00 ...99]).

Press the MEMORY button a second time and „-EDIT-“, will show up in the program window.



In the identifier window a blinking cursor will show up under the extreme left character.

The turning knob selects the desired character.

The AUD button positions the cursor one character to the right. The DUAL button positions the cursor one character to the left and simultaneously erases this character.

The station identifier can consist of maximum 8 characters.

To change frequency just press the **FREQ** button and follow the normal direct input procedure to edit the frequency.

To quite the frequency input press the **MEMORY** button again in order to go to the station identifier window for editing the identifier if required.


Using the buttons **FREQ** and **MEMORY** it can be toggled any time between identifier and frequency input.

Keep in mind the watch dog timer which will terminate the input mode after 20 sec.

Termination / save

From the identifier mode pressing  key, for short time "SAVE" will appear and the system will go back to the favourite selection.

A **sorting process** can be activated by pressing **MEMORY** again from the **EDIT**-mode.

SORT? will show up which stays for 20 seconds and it will be activated with  or skipped with **MEMORY**.

When activated all 99 favorites will sorted in alphabetical order and the process can take several minutes.

During the sorting procedure „**RUN nn**“ is displayed in the program window, with **nn** being the running index.


After skipping or ending the sort the transceiver then resumes its normal operating mode.


When the **MEMORY** button is pressed at the time when „**RUN nn**“ is displayed, the sorting procedure is terminated. The favourite list is then sorted partially only and the transceiver resumes its normal operating mode.

Example:

- 1.) Select location -> Button **MEM SEL** [23]
- 2.) Input of name -> Button **MEM -EDIT-**

Rotation knob to select character
For cursor use (**AUD**) (**DUAL**)
Frequency setting -> press knob
Use button **MEM** to go back to **-EDIT-**

3.) Saving press button,  it appears shortly **SAVE**, then back to 1.)

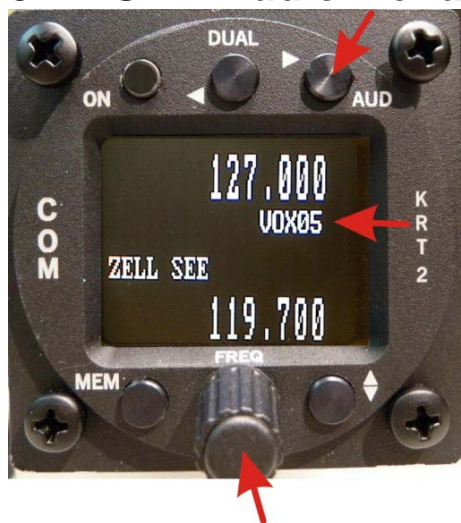
4.) Sorting press button **MEM**, -> question for **SORT**, Yes = , 
No = **MEM**

Exit if do nothing.

Doing nothing for longer will cancel the edit mode without no saving.

Hints: Some software versions requiring a faster rotation to select.

3.4 AUD – Audio Menu



Any action in the Audio Menu requires the pointer (<) to be next to the Audio menu window (see picture). When the pointer is next to the Standby frequency window, the pointer can be repositioned by pressing the AUD button once.

VOLnn is the Audio menu default display. No action on any control for more than 10 seconds will result in the VOLnn display.

Audio Menu items can be accessed in the following order by repeatedly pressing the AUD button.

VOL (default) SQ VOX TXm** INT EXT DIM SIT MIC

Audio menu items to right of the above list are less used than the left ones.

3.4.1 VOL – Volume

Turning the turning knob changes the receiver volume.

VOLnn Range: 01 – 16

The VOL setting only concerns the receiver and not the intercom system. Intercom volume values are set in the INT audio menu.

3.4.2 SQ -- Squelch

Pressing the AUD button once enables the turning knob to change the squelch level values.

SQnn Value range: 01 – 10

The Squelch setting is depending on several factors.

For engine driven airplanes an initial setting of 03-05 is recommended. For gliders a setting of 2 is recommended. The lower the Squelch level value the higher is the input sensitivity. A high sensitivity setting is susceptible to noise from other sources like ignition strobe-lights etc. Increase the number to suppress far stations.

Standard SQ-level is 05 ... 08. Higher setting will suppress weaker input signals.

01 = Squelch off, 02 = for long range. Squelch does not influence the intercom system.

3.4.3 VOX – Intercom Voice Trigger Level Setting

Pressing the AUD button twice enables the turning knob to change the voice level which triggers the intercom.

The intercom voice trigger level must be set to such a value which prevents that normal cockpit noise from being heard in the earphones. The intercom system should only be activated when talking at a normal voice level into the microphone.

The higher the value the louder one must speak in order to activate the intercom system.

VOX on condition is indicated by flag “v”.

VOXnn Range: 01 – 10

3.4.8 DIM – Display Brightness

Pressing the AUD button six times enables the turning knob to set the display brightness.

Display lighting current drain at maximum brightness is 40mA.

DIMnn Range: 01 – 16



3.4.9 BAT – Battery test

Pressing the AUD button seven times enables the turning knob to display the battery voltage.



3.5 DUAL Watch

Because the communication transceiver KRT2 contains only one receiver, DUAL watch is achieved by alternating between the Active and Standby frequencies.

The DUAL button activates and deactivates the dual watch function. Deactivation also can take place by pressing either the FREQ or MEMORY buttons.

The frequencies to be watched should be selected prior to the DUAL watch selection.

Scanning of frequencies is only possible when differentiating between radio noise and radio transmissions. This can be achieved with the squelch system set to a value of 02 or higher.

When DUAL watch is activated, "DUAL" is displayed on the lowest line. The pointer next to the DUAL display indicates the frequency on which there is reception.

The Active frequency always has priority, so the receiver remains on the Active frequency as long as there is reception on the Active frequency.

When there is no reception on both the Active frequency and the Standby frequency the receiver scans both frequencies 5 times per second.

When there is reception on the Standby frequency the receiver stays on the Standby frequency, however it switches to the Active frequency every 2 seconds for 0.3 seconds. When reception is detected on the Active frequency the receiver stays on the Active frequency.

The pointer next to the DUAL display indicates on which frequency there is reception.



Active-frequency-reception



Standby-frequency-reception

Standby and Active frequencies can be exchanged when in the DUAL mode. The transmitter operates on the Active frequency only.

Summary:

- Select the Standby frequency to be monitored in addition to in use frequency.
- With the AUD button and turning knob set SQnn to 02 or higher.
- With the DUAL button activate the DUAL watch function.
- When there is no reception on both the Active frequency and the Standby frequency the receiver scans both frequencies 5 times per second.
- When scanning the Active frequency always has priority.
- Deactivate the DUAL watch function with the DUAL or FREQ or MEMORY button

3.6 Transmitter Operation

The unit transmits on the active frequency (upper line) as long as a PTT (press to talk) switch is pressed.



Transmission



Reception

„TX“ indicates normal transmitter operation.

„RX“ indicates a receiver operation.

In the lower left corner of the display the carrier modulation is dynamically displayed. It corresponds to the side tone which is not available on gliders when no earphones are in use.

In order to avoid the blocking of the frequency by unintentional long transmissions (stuck microphone) the transmitter is switched off after two minutes and the display changes from „TX“ to „Te“. To resume transmission the PPT switch first must be released and then be pressed again.

While transmitting the external audio input will be turned off automatically. The microphone selection is dependent upon the pre-setting of the TXm-activation.

The differential speaker output will be turned off to prevent an audio feedback to the microphone. The speaker also will be disabled if the intercom (VOX) is active.

The output for the headset will carry the side tone.

In case there is just one PTT button available and multiple headsets in use both the PTT-L and PTT-R should be tied together, see also “3.4.5 TXm – PTT Switch Selection”.

To turn off the intercom – use the switch on dashboard