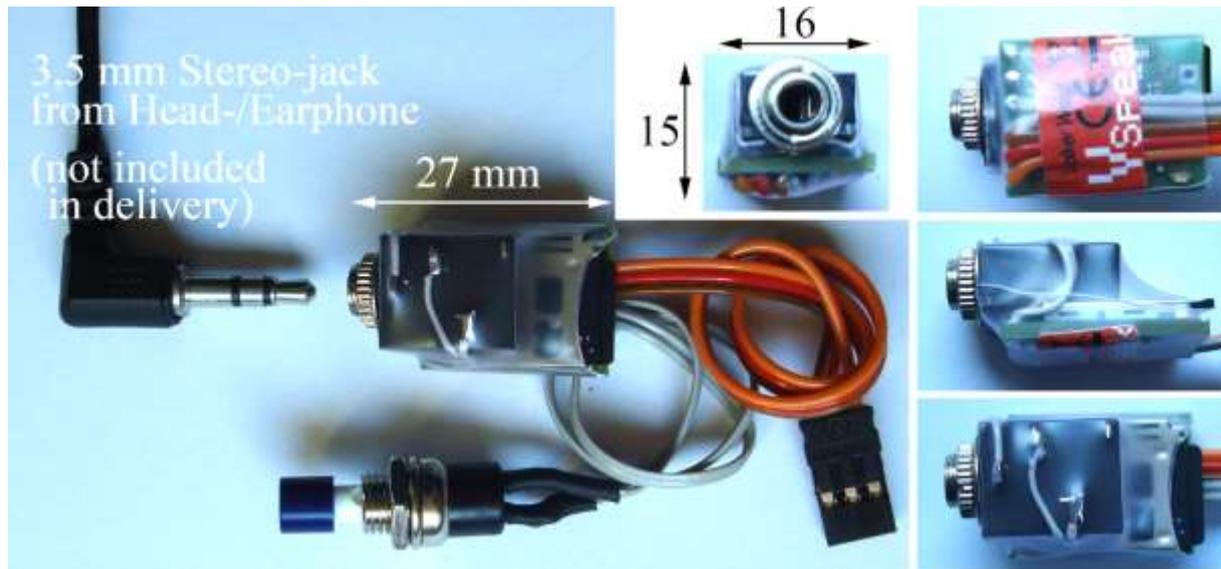




- for -

HoTT v4

Manual Version 1.2



Introduction

The voice module "VSpeak for HoTT" has been developed specifically for the HoTT-2 ,4-GHz modules M-G1 and M-G2. Thus, all are enhanced with HoTT retrofitted RC with a voice output of the telemetry data

In the realization of the module the focus is on:

- **no** influence on the radio-/receiver-system
- minimum dimensions to have the module fit even to the smallest hand radio

The operation of the speech module is provided through a switch which is designed as a non-latching switch.

The choice of the announcement of the measured values, the setting of the interval time, volume, etc should be done before the start, in order to focus exclusively on the flight model.

The speech module "VSpeak for HoTT" has been tested with HoTT components:
HoTT software and updates V4

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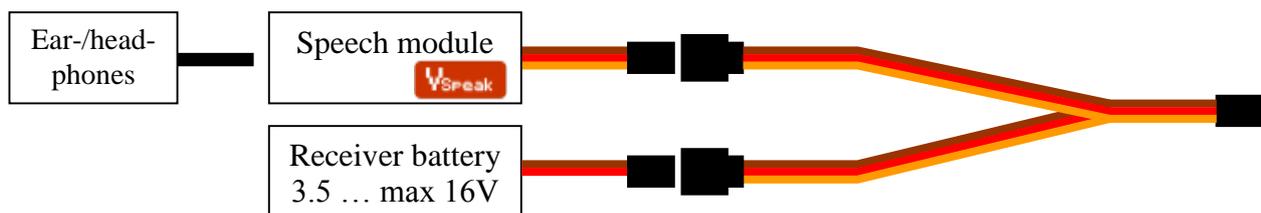
1 Installation

The speech module can analogously to a teacher/student socket be screwed into the radio housing over the male threads of the 3.5 mm stereo jack.
The switch is to be positioned in a good accessible place.

2 Connection

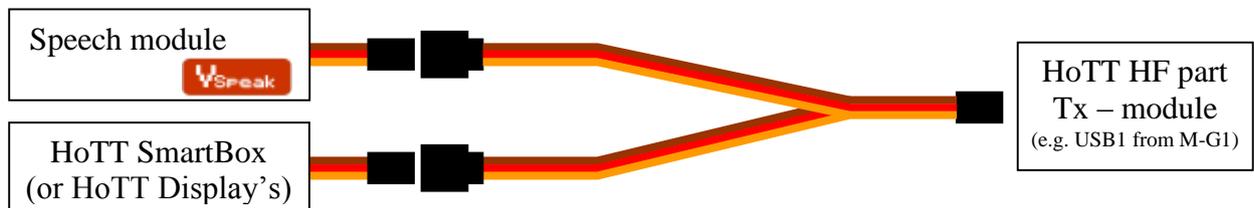
2.1 Testing the functionality

With a V-cable (Graupner/JR), a receiver battery and ear- or headphones, the speech module can be connected and tested for function according to the following diagram. The speech module will report the version as soon as the battery is connected.



2.2 Connection to HoTT-2,4GHz-HF module

The VSpeak-speech module can be connected using V-cable wherever also connected a HoTT SmartBox and telemetry values in the "Display Mode" (graphics) can be displayed on the Smartbox. It is always necessary to choose the display mode "MODEL SELECT" in order to view the corresponding representations



2.2.1 M-G1 USB1-Port

If you use the M-G1 transmitter module (Graupner Item no.: 33300) the USB1-connector will be used. SmartBox and VSpeak Module are connected with a V-cable. Disconnect the USB1-Connector in Graupner-transmitters with integrated telemetry (e.g. MC19, MC22) and connect the VSpeak module with a V-cable.

2.2.2 M-G2 data socket

At the transmitter module M- G2 (Graupner Item no.: 33302) the VSpeak module is plugged into the DATA socket , for transmitters with integrated telemetry directly (select the display with the telemetry values) - for other use a V-cable (similar M- G1 module , s . 2.2.1).

2.3 Communication

If properly installed, the speech module does not affect the functionality of the transmission system.

The speech module does NOT interfere with the data exchange, i.e. there is no signal output to the transmission system. In a way, the speech module "listens" to the HF module, interprets the data and transfers that as speech as described in the following sections.

2.4 Operation display

Error-free operation of the speech module is indicated by the "flashing" blue LED light.

3 Speech output

There are 3 types of the speech output:

3.1 Announcement of the sensor values

The start of the announcement of the sensor values is made either by key operation - or timed. Furthermore the announcements of capacity and altitude can be triggered if an adjustable difference is exceeded. The possible settings are described in section 5.

It is possible to select the announced sensor values individually. Also ALL announcements can be switched ON / OFF, whereby it can be selected with ON between MIN / current and MAX - thus the since the last announcement occurred MIN / MAX values or at the time of the announcement actual readings are announced.

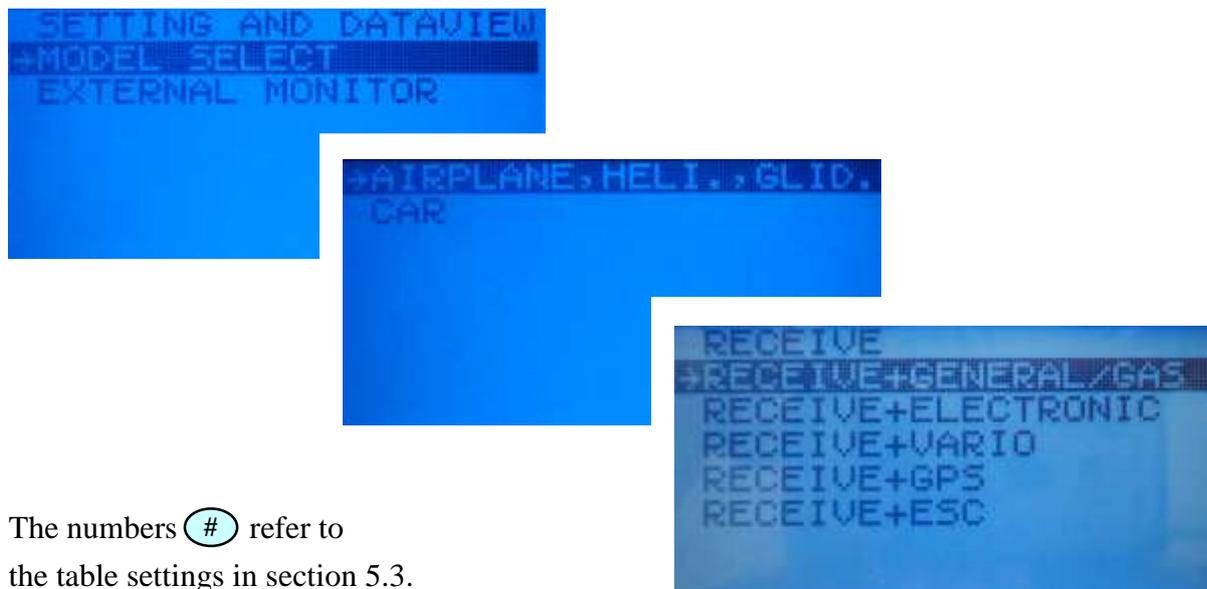
Values of non connected sensors are not announced, even if the setup the relevant announcement on "ON" position.

The values are announced according to the order in the table in section 5.3.

The following are the announcements for the display of SmartBox menu:

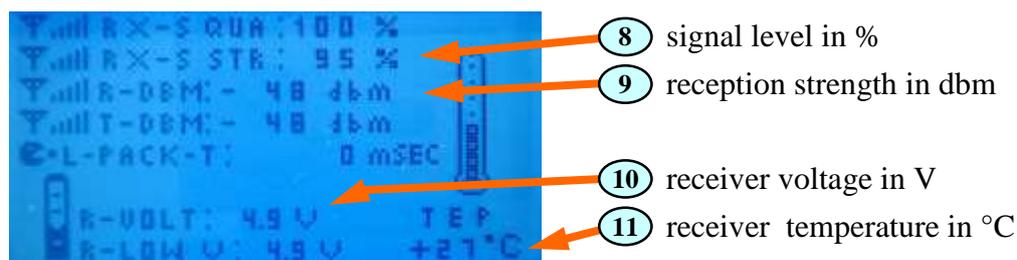
"**MODEL SELECT**" --> „**AIRPLANE, HELI., GLID.** " are described.

(The same applies to the corresponding menu's integrated telemetry displays for MC-19, MC-22, MC-24 ...)

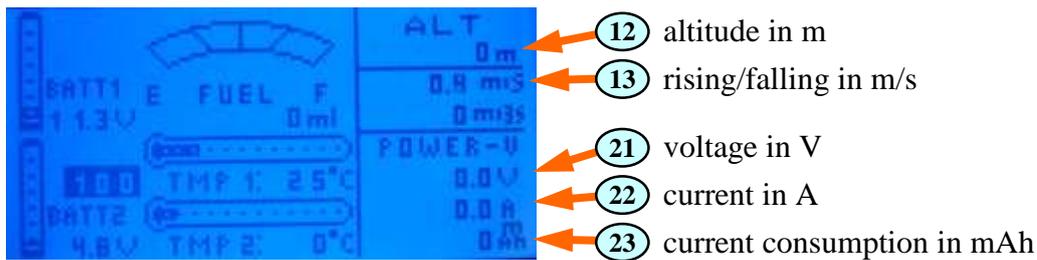
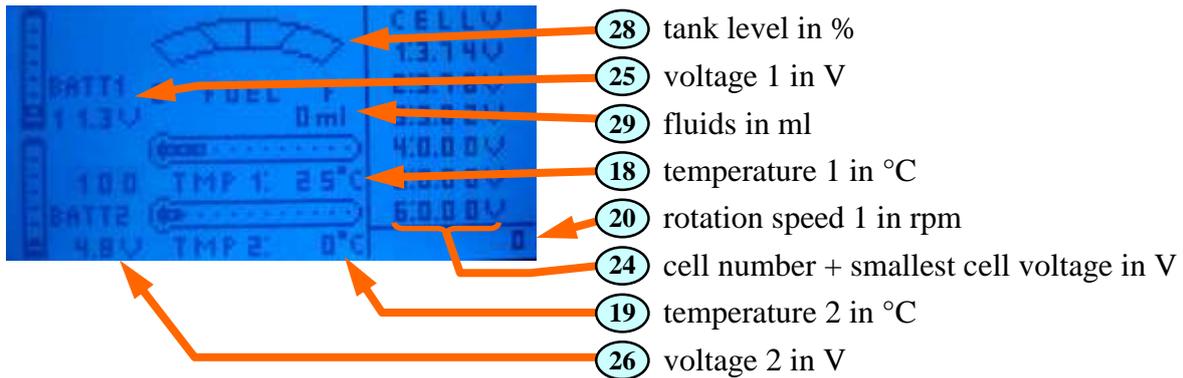


The numbers (#) refer to the table settings in section 5.3.

3.1.1 RECEIVE



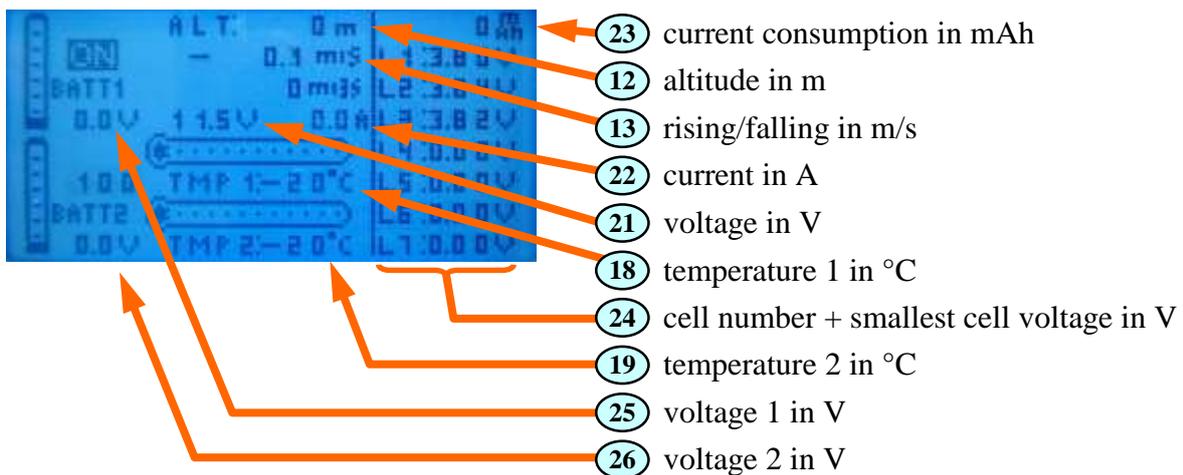
3.1.2 RECEIVE + GENERAL / GAS



Another possible announcements (without advert):

- ⑩ receiver voltage in V
- ⑪ receiver temperature in °C
- ⑳ speed in km/h
- ⑳ rotation speed 2 in rpm
- ⑳ pressure in bar

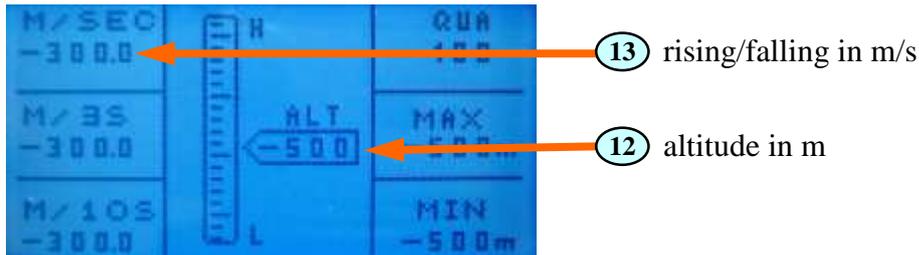
3.1.3 RECEIVE + ELECTRONIC



Another possible announcements (without advert):

- ⑩ receiver voltage in V
- ⑪ receiver temperature in °C
- ⑳ rotation speed 1 in rpm
- ⑳ speed in km/h

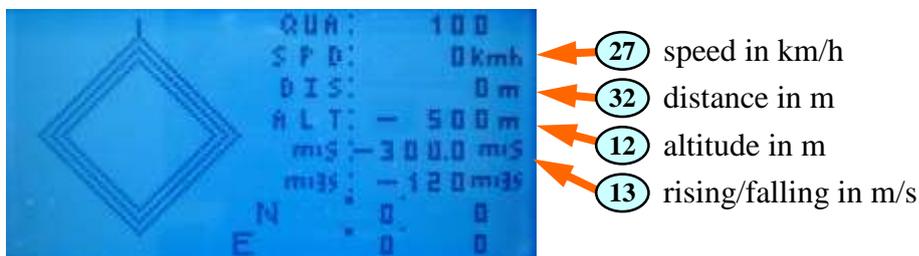
3.1.4 RECEIVE + VARIO



Another possible announcements (without advert):

- ⑩ receiver voltage in V
- ⑪ receiver temperature in °C

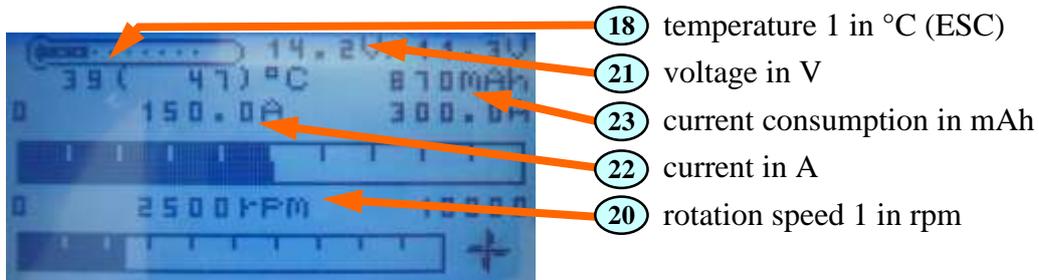
3.1.5 RECEIVE + GPS



Another possible announcements (without advert):

- ⑩ receiver voltage in V
- ⑪ receiver temperature in °C

3.1.6 RECEIVE + ESC



weitere mögliche Ansagen (im Display nicht sichtbar):

- ⑩ receiver voltage in V
- ⑪ receiver temperature in °C
- ⑲ temperature 2 in °C (Motor)

3.2 Announcements of the alarms

3.2.1 Sensor alarms

In HoTT compatible telemetry sensors, alarms/warning thresholds are configured. Each alarm has assigned a warning sound. The assignment is made in the relevant sensor parameters pages by selecting a letter (A ... Z) as a "Signal Tone". The warning sounds are combined with the warnings on the display and the voice output. Therefore, they may not be changed.

Zuordnung Buchstabe (Signal Tone) - Sprachausgabe	
A	alarm speed min
B	alarm falling min
C	alarm falling max
D	alarm distance max
E	alarm
F	alarm temperature 1 min
G	alarm temperature 2 min
H	alarm temperature 1 max
I	alarm temperature 2 max
J	alarm voltage 1 max
K	alarm voltage 2 max
L	alarm speed max
M	alarm rising min
N	alarm rising max
O	alarm altitude min
P	alarm voltage min
Q	alarm cell voltage
R	alarm voltage 1 min
S	alarm voltage 2 min
T	alarm rotation speed min
U	alarm tank level
V	alarm capacity
W	alarm current
X	alarm voltage max
Y	alarm rotation speed max
Z	alarm altitude max

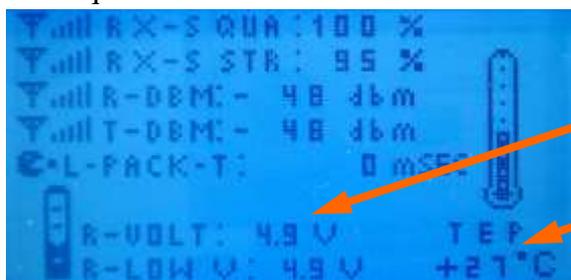
example display SmartBox,
Electric Air Module (Item no.: 33620)
parameter: „Max. Altitude“



Sensor alarms will be announced in two display modes, the telemetry display and also in the setup display.

3.2.2 Receiver alarms

Subsequent alarms can ONLY be announced in the telemetry displays (pictures)

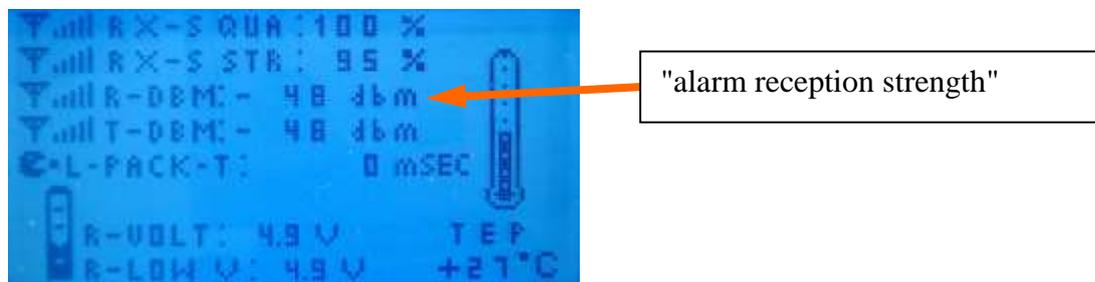


„alarm receiver voltage“

„alarm receiver temperature“

The thresholds for these alarms are configured in the settings of the receiver. The two alarms are also announced, if you are in a different graphic display, e.g. in "RECEIVE + ELECTRONIC".

In difference to the two o.g. Alarms, the "alarm reception strength" with the momentary HoTT software version can unfortunately be announced only in exact this representation:



The alert threshold for the "alarm reception strength" is not adjustable, it is for values "R-DBM: **less than** -90 dbm" fixed (by HoTT system).

3.2.3 Alarm pause

To prevent a "permanent" active alarm (e.g. receiver voltage < alarm threshold), blocking the announcement, can the alarm be paused. For this time the alarm message for this sensor value is suppressed - only after the expiry **and** then - still / or again - pending alarm would this be announced again.

3.3 Announcement of the settings (Setup)

A variety of settings on the speech module can be made with the keys (see section 5.3), those will be announced.

4 Vario sound

In all the displays (see section 3.1.#), where valid values for "rising/falling in m/s" come to indicate (all values, marked with ⑬), a in the frequency proportional vario sound for vertical speed can be generated from the speech module during the speech pause. In order to better distinguish between rising and falling, the tone for the rising is also interrupted. The interruption duration decreases with increasing climbing. The zero slide, neither rising nor falling, is soundless.

For the vario sound a number of settings can be made in the settings (see section 5.3):

- ⑭ Vario sound rising: ON/OFF
- ⑮ Vario sound falling: ON/OFF
- ⑯ Vario sensitivity: 0.1 0.2 0.3 m/s
- ⑰ Vario sound volume: 1, 2, 3, 15, 16, 15, 14,3, 2

For a long climb passages, e.g. E-gliders, F-trail, or just during "gymnastics" can the Vario-sound be switched OFF and the ON again by double-clicking (2x short activation).

5 Operation of the speech module

The speech module VSpeak is operated with the switch (non-latching switch). To check the function of the key a blue LED is lit for the duration of the operation.

The key can be pressed in four different ways:

5.0 "long key stroke"

If the key is pressed and held (> 2sec) the timed announcement is switched OFF or ON. The setting is announced, either:

"Timed announcement is OFF" - or - "timed announcement is ON"

Thus, only the cyclically recurring announcements of the reading is switched OFF / ON.

Using "single-click" the announcement can be started anytime. Also, the announcement of the alarms is done regardless of the setting made here.

The setting is saved.

5.1 "single click"

Using "single-click" (Button 1 x pressed briefly) the "regular announcement" is started (see section 3.1).

Is the speech module in mode "settings" (see section 5.3), then, by pressing the key, the reading-switching or changing takes place. In addition, the setting menu can also be stopped.

5.2 "double click"

By "double-clicking" (key 2 x pressed in quick succession) the vario tone is turned OFF or ON. The setting is announced, either:

"Vario sound is OFF" - or - "Vario sound is ON"

The setting you make is NOT saved.

5.3 "triple click"

Using "triple-click" (key 3 x pressed in quick succession) you get into the mode "settings" of the speech module. You can configure 3 different parameter-sets, which can be changed quickly. During the announcement is the key on 'confirmed' always asked in the times that are stored in the table below "yellow", i.e. in the "value" AND "waiting time".

All settings are saved - except for the setting parameter No. 5, "wav test".

During the announcement of the "setting parameters" ("gray" background) the setup can be cancelled by pressing the key. The changes made until the abortion will be saved.

Table settings			
No	Setting parameter	Value	waiting time
1	"VSpeak: settings"	"1" "2" "3"	
2	"language"	< selection language >	
3	"voice of"	< selection voice >	
4	"volume"	< value >	
5	"wav test"	"ON" / "OFF"	
6	"stop timed announcements"	< value > "seconds"	
7	"break alarm"	< value > "seconds"	
8	"announcement RX link quality indicator in % signal level"	"min" / "actual" / "OFF"	
9	"announcement reception strength in dBm"	"min" / "actual" / "OFF"	
10	"announcement receiver voltage in V"	"min" / "actual" / "OFF"	
11	"announcement receiver temperature in °C"	"min" / "actual" / "max" / "OFF"	
12	"announcement altitude"	"min" / "actual" / "max" / "OFF" "5" / "10" / "20" / "25" / "50" "m"	
13	"announcement rising or falling in m/s"	"min" / "actual" / "max" / "OFF"	
14	"vario sound rising is"	"ON" / "OFF"	
15	"vario sound falling is"	"ON" / "OFF"	
16	"vario sensitivity"	"0.1" "0.2" "0.3" "m/s"	
17	"vario sound volume"	< value >	
18	"announcement temperature 1 in °C"	"min" / "actual" / "max" / "OFF"	

RECEIVE	RECEIVE + GENERAL/GAS	RECEIVE + ELECTRONIC	RECEIVE + VARIO	RECEIVE + GPS	RECEIVE + ESC
X					
X					
X	X	X	X	X	X
X	X	X	X	X	X
	X	X	X	X	
	X	X	X	X	
	X	X	X	X	
	X	X	X	X	
	X	X			X

Table settings			
No	Setting parameter	Value	waiting time
19	"announcement temperature 2 in °C"	"min" / "actual" / "max" / "OFF"	
20	"announcement rotation speed 1 in rpm"	"min" / "actual" / "max" / "OFF"	
21	"announcement voltage in V"	"min" / "actual" / "OFF"	
22	"announcement current in A"	"min" / "actual" / "max" / "OFF"	
23	"announcement current consumption"	"ON" / "OFF" / "100" / "200" / "500" / "1000" "mAh"	
24	"announcement cell voltage in V"	"min" / "OFF"	
25	"announcement voltage 1 in V"	"min" / "actual" / "OFF"	
26	"announcement voltage 2 in V"	"min" / "actual" / "OFF"	
27	"announcement speed in km/h"	"min" / "actual" / "max" / "OFF"	
28	"announcement tank level in % tank level"	"min" / "OFF"	
29	"announcement fluids in ml"	"min" / "actual" / "max" / "OFF"	
30	"announcement rotation speed 2 in rpm"	"min" / "actual" / "max" / "OFF"	
31	"announcement pressure in bar"	"min" / "actual" / "max" / "OFF"	
32	"announcement distance in m"	"min" / "actual" / "max" / "OFF"	
33	"end of settings"		
34	"changes have been saved"		

RECEIVE	RECEIVE + GENERAL/GAS	RECEIVE + ELECTRONIC	RECEIVE + VARIO	RECEIVE + GPS	RECEIVE + ESC
	X	X			X
	X	X			X
	X	X			X
	X	X			X
	X	X			X
	X	X			
	X	X			
	X	X		X	
	X				
	X				
	X				
	X				
	X				
				X	

To 1: < **VSpeak: settings** >

There are 3 sets of different parameters available. You can change the parameter sets here easily.

To 2: < **selection language** >

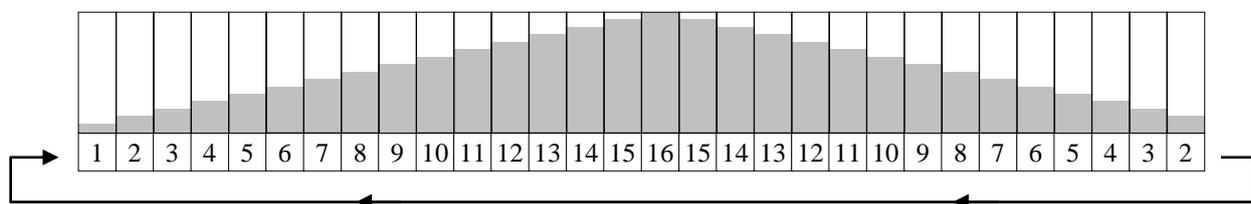
german, english, french, spanish, czech, Russian, portuguese, italian, dutch and hungarian

To 3: < **selection voice** >

(see section 6 "wav files") The voices are in each "Voice directory" in the directory "voice" saved. The directory "XYZ" (available in each "language directory") can be used for self-recorded wav files.

To 4: **"volume"**

The volume of the announcements can be adjusted in 16 steps.



To 5: **"wav test"**

Is "wav Test ON" selected it is immediately jumped to no. 33. Following this all wav files are played to the selected voice. This is an endless loop which can be stopped by pressing a key.

The wav-test serves "creative" users to test their self-recorded wav files.

The setting is not saved.

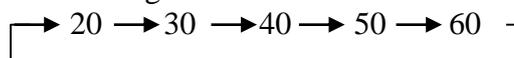
To 6: **"stop timed announcements" < value > "seconds"**

The following values can be set for the interval time (in seconds):



To 7: **"break alarm" < value > "seconds"**

The following values can be set for the interval time (in seconds):



To 12: **"announcement altitude"**

If you set the value to 5,10,20,25 or 50, you will get the current altitude if you press the button or if you have timed announcements. Additionally you get an announcement if the altitude changes by the set value.

To 13: **"announcement cell voltage in V"**

The number of decimal places depends, of the under 16 "vario sensitivity" setting. At 0.05 m/s 2 decimal places are announced - for 0.1 ... 0.3 m/s only one decimal place.

To 16 **"vario sensitivity"**

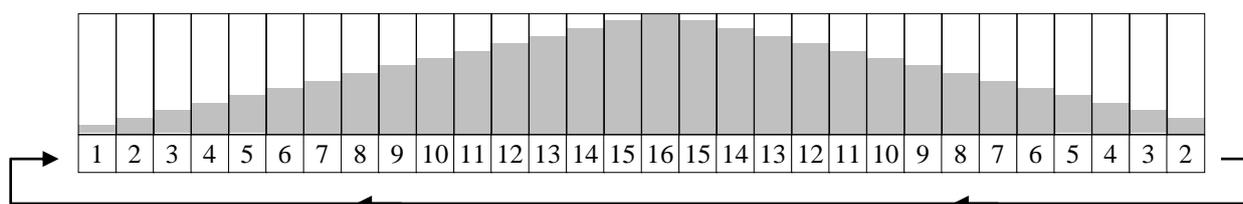
The sensors for the vario value "rising or falling" can have a different quality, so it may be that despite model at rest (e.g. on the ground - or in the home workshop), / the decimal point of the measured value "shakes" to 0.1 / 0.2 / 0.3 m/s or more. Because this generates the Vario sound, it would cause unnecessary vario sounds. To prevent this, the sensitivity for the vario sound generating in steps of 0.1 .. 0.3 m/s can be adjusted.

Context "Vario sound sensitivity" zero lift / max values (in m/s)			
sensitivity	zero lift (soundless)	max. falling	max. rising
0.1	0.0	- 2.0	+ 2.0
0.2	- 0.1... + 0.1	- 4.0	+ 4.0
0.3	- 0.2... + 0.2	- 6.0	+ 6.0

Rise and fall - values beyond the maximum values in the above mentioned table, they are no longer distinguished by the Vario sound, i.e. these are signaled by the respective Max Vario sound.

To 17: "vario sound volume"

The vario sound can be adjusted in 16 steps in its volume. While setting a tone is generated, which corresponds to the "least falling".



To 23: "announcement current consumption"

If you set the value to 100,200,500 or 1000 mAh, you will get the current consumption if you press the button or if you have timed announcements. Additionally you will get an announcement if the consumption changes by the set value.

To 34: "changes have been saved"

If settings were made under the previous points they are only saved **now at this point** - if no changes were made - this announcement is not applicable. Accidental - or - incorrect entries can thus be discarded by switching off the radio before reaching this announcement.

5.4 Notes on useful settings and operation

As described above, a number of settings can be made for the speech module VSpeak. If the sensor values are present and not turned to the "OFF" position, the sensor values are all announced at once (without a break), according to the order of the table in section 5.3. The start of the announcements can be either timed (at the end of time "stop timed announcements") or requested ("single-click").

Furthermore you can enable the announcement of altitude and current consumption on a set difference (and no other announcement is happening at this moment).

To avoid being distracted by too many announcements one should **only allow a few announcements** for the timed announcement or announcement to "single-click" (Immediate start).

6 wav files



The wav files (audio files of the announcements) are arranged in accordance with the adjacent picture in directories according to the country code (e.g. DE for German) and voices: (e.g., Robbi, Rolf, Silvia ...).

The directory "XYZ" is available in any language. The available wav files can be replaced by "diligent" users of the VSpeak module by own recordings, i.e. can be overwritten.

To create your own wav files there's useful information on the website: www.VSpeak-modell.de under downloads.

The self-generated wav files can be easily tested in VSpeak (see section 5.3):

1. Settings choose <language> and <voice>
2. settings "wav test ON"
(the wav files are played in an infinite loop)

"Creative self-generated voices" can be mailed for review and inclusion in the selection of voices by VSpeak at the address mentioned in section 13.

7 Update

The processor on the speech module contains a SD bootloader with a version counter.

If firmware updates are available they will be sent via mail. The information in the mail files are copied on the Micro SD card (formatted FAT or FAT16), this is inserted into the speech module and power turned on. The boot loader will recognize the new software version, boots (blue LED "flickers") and is now up to date.

Everytime with the first turning on the current version number is announced.

8 Accessories

V-cable and earphones are not included as these are often already present.

Suggestions for receiver / speaker / BT devices:

1. **Wired earphones** www.conrad.com article no.: 386308.
(in our opinion the best price-performance ratio)

2. Hama mini-speaker www.conrad.com article no.: 343151.

3. Wireless via Bluetooth transmitter "B-SPEECH TX2" from www.reichelt.de
The BT transmitter functions with just about every BT headsets except those devices specified in the manual (mobile phone accessories).

Note: In order to enable the B-SPEECH TX2 in pairing mode, hold down the On button until the red **AND** the blue LED flashes (about 7s). At this point, the manual is a bit "thin".

Position BSpeech module and active speaker at a sufficient distance to 2.4 GHz radio antenna!

9 Technical data

Power supply	3.5 ... max. 16V
Power usage	ca. 18 .. 30 mA
Dimensions	27 x 16 x 15 mm
Weight	7 g
Connections	3.5 mm stereo jack, short-circuit-proof output for earphone Graupner / JR servo plug input

10 EG Declaration of Conformity

Manufacturer

VSpeak-Modellbau (Volker Weigt)
Priestewitz



We hereby declare that the product

Speech module VSpeak

complies with the following European directives:

2004/108/EC	EMC Directive
2006/95/EC	Low Voltage Directive (LVD)
2011/65/EC	Restriction of Hazardous Substances (RoHS)

The presumption of conformity is taken by applying the following harmonized standards:

EN60065	Audio-, video- and similar electronic apparatus - Safety requirements
EN60332	Tests on electric and optical fibre cables under fire conditions
EN60950	Information technology equipment - Safety
EN61000-6-1	Electromagnetic compatibility (EMC)
EN61000-6-3	
EN55022	Information technology equipment - Radio disturbance characteristics

Priestewitz, 2012/11/01

.....
Signature
Volker Weigt
Managing Director

11 Instructions for disposal



Equipment marked with the symbol should not be disposed of within household waste.

12 Version history

Vers.-No	Date	Comment
1.0	11.2012	first retail version
1.1	09.2013	new voices in portuguese, italian, dutch and Hungarian
1.2	01.2015	Full Support for HOTT ESC Altitude and capacity difference triggered announcement is possible Support for 3 different parameter sets

13 Contact

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