

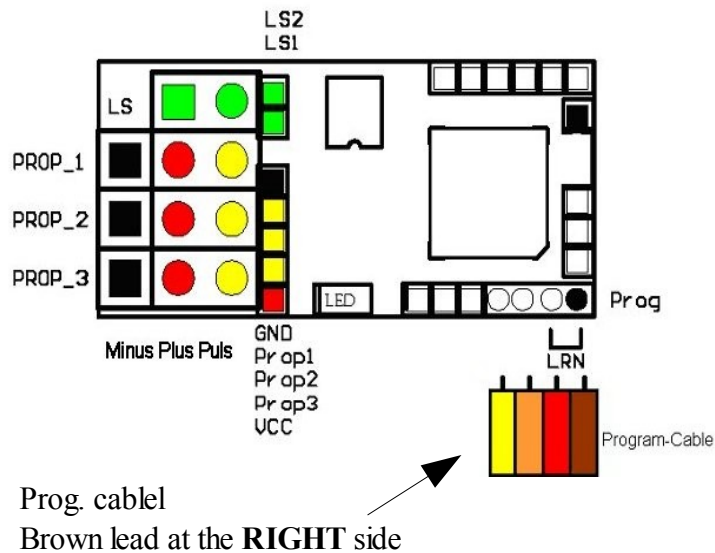
Programming Manual

TBS Micro V1.03

The sound unit offers a variety of adjustments. They can be changed only with the optional programming adaptor which is connected to a conventional PC at its RS232 interface.

The prog.adapter is plugged to the soundunit at the “Prog” pads. Make sure that the **BROWN** lead is located at the **right (outer)** side of the PCB as shown in the picture.

For programming the soundunit must be powered by one of the Prop inputs
-> Switch on receiver.



You need a **terminal program** to communicate with the sound unit.
Windows™ offers for example “*Hyperterminal*” which can be used.

It can be found at: **Start -> Programs -> Accessories -> Communication**
It must be adjusted to: **19200Baud, 8N1, no flowcontrol**

A already configured setup file can be downloaded at www.benedini.de -> Download.
If you launch this file “*Hyperterminal*” should start automatically.

The parameter section is entered as follows:

1. Connect the programming adaptor between TBS Micro and PC
2. Start “*Hyperterminal*”
3. Switch on receiver
4. Push the ENTER button at the PC

The following main menu appears at the PC screen:

```
*** TBS-MICRO Vx.x ***
1: Load Soundfile
2: Load Parameter
3: Sound Info
4: Prop Settings
5: Parameter
6: Coder Functions
7: Prop2 Functions
8: Sound Functions
9: Volume
s: System-Info
p: Prop Values
```

The desired section is selected by the according **number**.

The submenus are controlled as follows:

Enter	Next line (The actual line is indicated by an arrow)
+	Next value
-	Former value
ESC	return to main menu

1. Submenus

1: Load Sound file

Here you can download a new sound file to the sound unit:

<i>Message Sound unit</i>	<i>User</i>
Programm? y/n	Confirm by „y“
erasing Flash...	Wait until memory is erased
Start File transfer	Hyperterminal: Transfer -> send Textfile -> select soundfile (watch extensions!) Running download is indicated by *
File Transfer complete	ESC -> Return to main menu

A selection of different sounds can be downloaded at www.benedini.de -> Download (in preparation)

Note:

Only Benedini Soundfiles can be loaded to the soundunit. Other soundfiles will destroy the internal configuration and the soundunit must be sent back for reconfiguring!

2: Load Parameter

Download of a complete parameter set

3: Sound Info

Displays infos of the actual loaded sound.

Example:

INFOs:

Sound Name: Actros2

Sample Freq: x16

Max Speed: 128

Engine Sounds: 6

Special Sounds: 10

4: Prop Settings

Indication of the actually stored settings of the proportional channels

Example:

Prop Settings:

Coder0 :	159
Coder1 :	75
Coder2 :	66
Coder3 :	58
Coder4 :	152
Coder5 :	144
Coder6 :	135
Coder7 :	126
Coder8 :	118
Coder9 :	108
Coder10 :	100
Coder11 :	92
Coder12 :	84
Prop1 Null:	112
Prop2 Null:	110
Prop1 Max:	54
PROP1 Min:	3

5: Parameter

Base settings of the soundunit are done in this section.

Example:

Parameter:

Coder Typ = 2 (12-Key Coder)<=

Motor Typ = 1 (Man Start)

Prop2 Typ = 0 (no)

Brems Typ = 0 (no)

Rueck Typ = 0 (no)

Speed Max = 128

Flash Time = 7

<i>Parameter</i>	<i>Selection</i>
Coder Typ	0 (No): No control channel used -> set Motor Typ to Autostart !! 1 (2-Key Coder): Controlling by toggle switch 2 (12-Key Coder): Controlling by 12 position encoder
Motor Typ	0 (Autostart): Engine starts automatically at first acceleration 1 (Man.Start): Manually starting of the engine by the control channel (Coder Typ) 2 (Motorsound): Soundsupport for special function in combination with a ESC (f.e. Traversing a crane). If the control channel leaves its neutral position, a speed dependant sound including start and stop sequencies is played.
Prop2 Typ	0 (no): No Function 1 (2nd FR in): Input for second speed controller 2 (2nd 2-Key): Input for second toggle switch input Selection of functions at the second “encoder table” 3 (Function): Direct launching of two functions/ sounds by a „3 position switch (f.e.). If the switch is moved up sound1 is launch, down launches sound2. Sound 1 and sound 2 are defined at „7:2 nd Coder Functions“. 4 (Sound Change): A sound is played as long as changes at Prop2 are detected. This means as long as a servo moves. Prop2 Sound = (Sound X) Sound selection for Prop2 Sound
Brems Typ	Brems Typ = 1 (A3-ON auto) Breaklight at Output Nr.3 <u>Comment:</u> Break light is only activated if speed is reduced very fast. External NPN transistors are necessary!
Rueck Typ	Rueck Typ = 1 (A4-ON pos) Back up light at output 4 External NPN transistors are necessary!
Speed Max	Reduction of max. sound speed
Flash Time	„On time“ of flashing outputs. Selectable at „8: Sound Functions“

6: 1st Coder Functions

Sound/Action sequence.

This sequence is served by the 12 Key Coder or 2 Key coder control mode.

A list of all actions can be found at the end of this documentation.

7: 2nd Coder Functions

Sound/Action sequence of the second Coder channel at Prop2 input.

8: Sound Functions

Linked actions to different sounds.

These actions are automatically triggered by the according sound.

9. Volume

Volume adjustment (0-255)

2. Overview of all available functions

<i>Funktion</i>	<i>Beschreibung</i>
No	No Funktion
Engine Start	Engine Start/Stop
Sound1	Play specialsound 1
Sound2	Play specialsound 2
Sound3	Play specialsound 3
Sound4	Play specialsound 4
Sound5	Play specialsound 5
Sound6	Play specialsound 6
Sound7	Play specialsound 7
Sound8	Play specialsound 8
Sound9	Play specialsound 9
Sound10	Play specialsound 10
Sound11	Play specialsound 11
Sound12	Play specialsound 12
A"x" on-off	Output "x" On/Off (Memory contact) ["x" = 1-9]
A"x" on	Output "x" On (Momentary contact) ["x" = 1-9]
A1 blink	Direction flash On/Off, Output1
A2 blink	Direction flash On/Off, Output1
A1+2 W-Blink	Warning light On/Off, Output1 and Output2
A3 time 1s	Brake light 1s on, Output3
A8+9 blink	Blue light On/Off, Output8 und Output9
A8+9 flash	Double flasher On/Off, Output8 und Output9

<i>Funktion</i>	<i>Beschreibung</i>
Volume down	Volume change

Comment:

All outputs need external NPN transistors !

Technical changes reserved

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