



**Installation Instructions**  
**4-channel Stereo Satellite TV Converter**

**TechniNet®**

**Order No.:**

- 0004/5900 TechniNet A**
- 0004/5901 TechniNet B**
- 0004/5902 TechniNet C**
- 0004/5910 TechniNet A-VPS**
- 0004/5911 TechniNet B-VPS**
- 0004/5912 TechniNet C-VPS**

TECHNINET is designed to convert satellite IF (Intermediate Frequency) signals into VHF-compatible signals (Version A:EO2...EO4, SO2...SO4, Version B:SO4...S10, EO5...E12, S11...S20, Version C: E21...E37, S21...S41). The unit is fully programmable, compatible with neighbouring channels, and converts stereo/dual tone signals in accordance with the dual sound carrier protocol. In the VPS versions, an integrated line data decoder evaluates the PDC/VPS data broadcast by many stations/providers. The units are thus in a position to recognise varying sound modes received from the broadcaster (mono, stereo, dual channel sound), and to automatically activate the appropriate code frequencies within the PAL signal. Channel 1 is supplied by a separate input, E1. An integrated distribution field is available at input E2, which distributes the signals of one level to channels 2, 3 and 4. This signal is then subject to damping by 9 dB before being made available for further distribution at output A. Both Satellite-IF inputs are provided with current appropriate to an LNB (13V, 300 mA max.) It is possible to loop an external decoder through into channel 4, using the Sub-D connector. The appropriate connection cable for Sub-D-SCART is available under Order no. 0000/3613. The output level of the individual channels can be adjusted by means of the respective controls (approx. 80..100 dB $\mu$ V).

Data remains in memory even if there is a power failure.

### **Installation:**

**Please ensure there is enough space to provide adequate ventilation. Install the base station in a room in which a maximum ambient temperature of 55° C. is not exceeded at any time, even at the height of summer.**

Mount the unit(s) in an upright position next to each other on a wall surface, or use the wall-mounted housing, which is obtainable as an accessory. **Ensure that units are placed at a distance of at least 4 cm from each other.**

Where several units are to be installed together, the relevant outputs must be connected by means of multiple connectors (or by means of inversely switched BK distributors). This will result in a certain level of collective damping, which may make it necessary to include a suitable BK amplifier in the signal path. However, amplifier output levels in excess of 110 dB $\mu$ V are not recommended.

The IF in-/outputs can be switched as required, depending on programme allocations. Pay attention to the acceptable range of levels at the inputs.

### **NOTE:**

**In order to avoid damage to the TechniNet units, the installation should be properly grounded (earthed) before it is switched on.**

### **Preliminary Settings:**

All four channels are preprogrammed to default settings at the factory, in order to provide a defined starting point for the user. Pre-programming is carried out in relation to ASTRA, and with reference to an LNB with a LOF of 9.75 GHz. The following settings are programmed at the factory:

- audio bandwidth 130 kHz
- volume 0 dB
- adaptive de-emphasis
- audio A 7.02 MHz, B 7.20 MHz
- video level high
- internal signal path (channel 4)
- VPS versions: VPS auto on
- output offset 0 kHz

1	1509	E 02	E 05	S21	Zweiton	Eurosport (G)
2	1744	E 03	E 07	S37	stereo	ARD Germany
3	1214	E 04	E 09	E21	stereo	ZDF Germany
4	1891	S 04	E 11	E37	stereo	n-tv Germany

### Programming block:

Programming is entered via the keyboard. In order to prevent an unintentional change in stored data, the keyboard is electronically blocked once programming has been completed.

This programming block can be disabled by pressing both arrow keys simultaneously for approx. 4 seconds. Once the red display starts to blink, you have approx. 3 seconds in which to press both the "+" and "-" keys, which will enable the programming mode (display of channel 1)

### Programming:

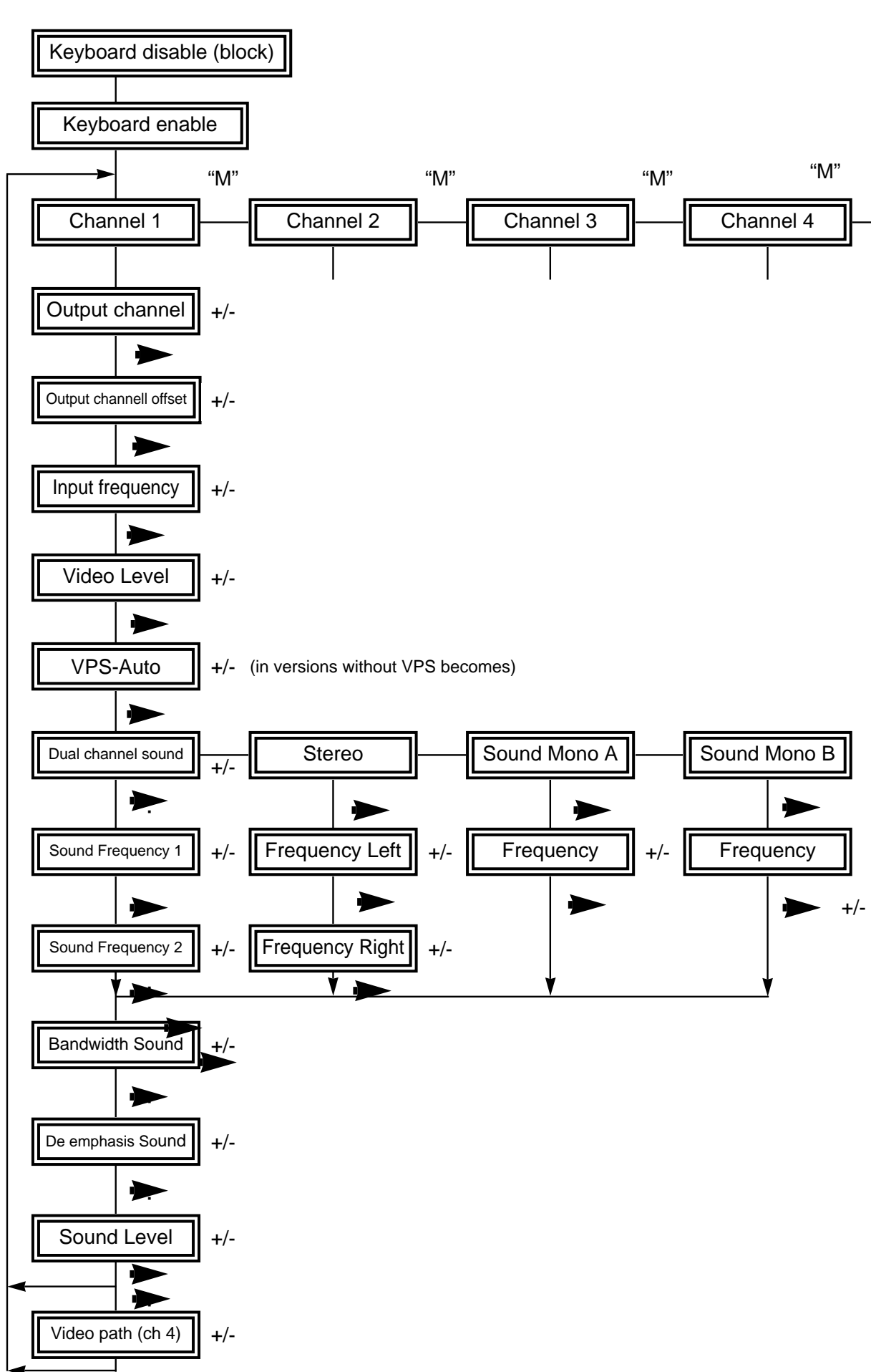
Switch on the current supply, and enable (unblock) the keyboard. The number of the channel selected appears in the red display, the parameters selected appear in the green display.

The parameters are set by means of the "+" and "-" keys. The arrow keys are used to move on to the next parameter. The "M" key is used to store the programmed values, and to move on to the next channel.

When you have selected channel 4, pressing the "M" key will result in programmed values being stored in memory, and you will exit the programming mode (red display shows "-").

The following parameters can be called up successively for each channel, and altered:

Parameter	Available settings			Display
Output channel (Version A / Version B / Version C)	E02...E04 S02...S04	S04...S10 E05...E12 S11...S20	S21...S41 E21...E37	S xx C xx S xx
Output channel offset	+ / - 16 * 62,5 kHz			o xx
Input frequency	950...2050 MHz			xxxx
Video amplification	high low			UU - UU _
VPS-Auto (only for VPS-Versions)	on off			UPS - UPS _
Audio mode	dual channel sound stereo mono A, mono B			o o o.o A.o_ , B.o_
Sound sub-carrier frequency	5.50...8.70 MHz			Ax.xx , Bx.xx
Audio bandwidth	130 kHz 280 kHz 380 kHz 600 kHz			=130 =280 =380 =600
Audio de emphasis	adaptiv 50µs 75µs J17			AD 50µ 75µ J 17
Audio level	+3...-6 dB in 1dB steps			x DB
Signal path (only channel 4) for decoder loop-through	internal external			INT DEC



Output channels that are already configured in terms of other channel cannot be programmed in the channel you are currently working on, and will be automatically ignored (blinking display).

The AFC is inactive while the input frequency is being selected, AFC is activated again when you exit the programming level.

**Dual channel sound:** the sound sub-carrier with the lower frequency is automatically allocated to sound channel 1 (audio 1) in the PAL signal.

**Stereo sound:** when the sound sub-carrier for the left channel (e.g. 7.02 MHz) is selected, the sub-carrier for the right channel is automatically selected at the same time by the addition of 180 kHz to the frequency (in this example, 7.20 MHz). This will usually be correct. However, where necessary, the right channel sound sub-carrier can be selected specifically in the next programming step.

### **VPS-Auto function - in TechniNet VPS**

If the VPS is switched on, and the decoder recognizes valid PDC/VPS data, the audio mode established by the decoder will have precedence over the programmed mode. In this case, the decimal point of the channel number display will be activated.









If no VPS data is being transmitted on this channel, or if the decoder does not recognize the data, or when the automatic function is switched off, the programmed audio mode will be effective.

The decimal point of the left-hand (green) display will light up while you are on the menu step Audio Mode, if the automatic function is switched on (independent of the signal received).

The displays and settings relate only to the channel currently selected.

### **Example of a programming procedure:**

Channel 1, Programme ARTE on Channel SO4, with dual channel sound German/French

1. Switch on the power supply.
2. Enable keyboard operation as described under "**Programme blocking**".
3. The display will show the setting of the selected output channel of channel 1. Use the "+" and "-" keys to select the required output channel (S 04).
4. Press the key . Use the + or - keys you can select the offset of the output channel. Under normal circumstances, this setting should be retained as 0 (o O).
5. Press the key . Use the + or - keys to select the desired satellite IF input frequency (-964).
6. Press the key . Use the + or - keys to adjust the video amplification, e.g. for ASTRA it is always "high" (UU~)
7. **Only for VPS version:** Press the key . Use the + or - keys to switch the VPS auto function on or off, in this example set to off (dual channel sound fixed) (UPS~)
8. Press the key . Use the + or - keys to select the desired audio mode, in the example dual channel sound (o\_o).
9. Press the key . Use the + or - keys to select the desired Sound 1 frequency, in the example 7.02 MHz for German (A7.02)
10. Press the key . Use the + or - keys to select the desired Sound 2 frequency, in the example 7.38 MHz for French (B7.38).
11. You can now press the key  several times in order to select the remaining parameters, such as bandwidth (130 kHz), de-emphasis (adaptive) and volume, and can use the + or - keys appropriately to make your selection, or to check on your existing settings.
12. Pressing the "**M**" key at any stage of the programming procedure will take you to the next channel path. Simultaneously, the programmed values for the completed channel path will be automatically stored in memory.

Settings:

Set the audio and video levels in such a way that a similar sound volume and picture quality is achieved for all programmes selected and set.

The output levels of the channel paths can be adjusted on the underside of the TechniNet unit within a range of 20 dB for each channel.

**Set all output levels of the base station to the same value.**

Dimensions (H x W x D)	463 mm x 102 mm x 294 mm
Voltage	230V, +6% -10%, 50 Hz
Power consumption	< 50 W
Permissible ambient temperature	0 - 55° C.
Weight	approx. 5 kg
LNB feeder current	approx. 13V, max. 300 mA (to each of E1 and E2)
Certification	CE

**Receiver section:**

Input frequency range	950..2050 MHz
Tuning	PLL frequency synthesizer, 1 MHz steps, AFC
Input level range E1	50..79 dB $\mu$ V
Input level range E2	59..88 dB $\mu$ V
Input impedance	75 Ohm
Bandwidth 2. IF	27 MHz
Video stroke	2 levels, switchable
Signal-to-noise, weighted	> 46 dB

**Audio:**

Tuning range sound sub-carrier	5.50..8.70 MHz (on 10 kHz grid)
Bandwidth HF	130 kHz, 280 kHz, 380 kHz, 600 kHz
De-emphasis	50 $\mu$ s, 75 $\mu$ s, J17, adaptiv (compatible to Panda-Wegener 1)
Bandwidth LF	50 Hz..14 kHz (-3dB)
Distortion	< 0.5% at U <sub>a</sub> max., 1 kHz
Signal-to-Noise (A)	> 60 dB
Crosstalk damping	> 50 dB

**Decoder interface Channel 4:**

Connector:	SUB D, 15 pin
Outputs FBAS	1 V <sub>ss</sub> / 75 Ohm at 1.5 MHz reference frequency
Bandwidth	5 MHz (3 dB)
De-emphasis	CCIR Rec. 405-1
Basic band	1 V <sub>ss</sub> / 75 Ohm
Audio	> 900 mV <sub>off</sub> into R > 10 kOhm, adjustable +3/ -6 dB
Inputs FBAS	1 V <sub>ss</sub> /75 Ohm sync. negative
Audio	1 V <sub>off</sub> into R < 10 kOhm for +/-30 kHz stroke

**TV Modulator:**

Modulation	Residual side band AM
TV standard/norm	PAL B
Output range	
Version A, A-VPS	47..132 MHz = E02..E04, S02..S04
Version B, B-VPS	125..300 MHz = S04..S10, E05..E12, S11..S20
Version C, C-VPS	302..470 MHz = S21..S41, 471..606 MHz = C21..C37
Tuning	PLL frequency synthesizer
Output level	typically 100 dB $\mu$ V/ 75 Ohm +/- 3 dB
Adjustment range	20 dB
Reflux damping	> 14 dB (channel bandwidth)
Level diff. BT - TT1	13 dB +/- 3 dB
Level diff. BT - TT2	20 dB +/- 3 dB

**Signal-to-noise ratios**

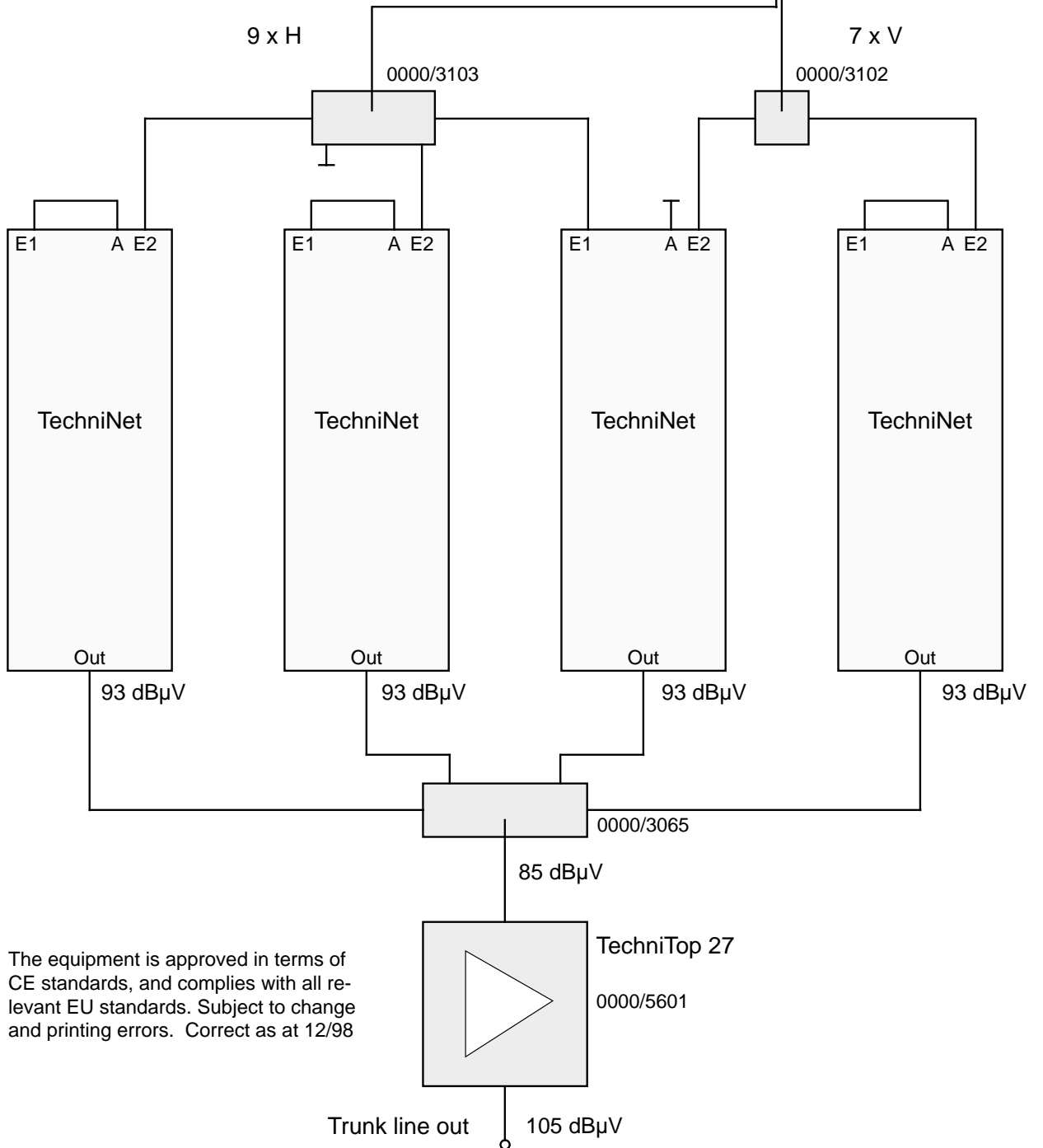
Auxiliary broadcasts	> 60 dB
Harmonic distortion	> 60 dB
S/N weighted Video	> 48 dB
S/N weighted Audio	> 56 dB (stroke +/- 30 kHz, f <sub>mod</sub> = 500 Hz)

**Pin allocation SUB-D connector (standard)**

1 Audio in left	6 Audio in right	11 GND
2 FBAS in	7 not used	12 Audio out left
3 not used	8 GND	13 Audio out right
4 Baseband out	9 not used	14 not used
5 FBAS out	10 not used	15 not used

**Subject to change in the interest of technological progress**

SATMAN 1000  
 + UNYSAT DUAL OUTPUT LNB  
 6099/8680



The equipment is approved in terms of CE standards, and complies with all relevant EU standards. Subject to change and printing errors. Correct as at 12/98



Multipurpose-Display

Operating keys

Memory key

SUB-D-Decoder socket

