



Operating instructions

VS 21 Multi channel programmable Filter-Amplifier



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- For digital and analogue channels
- 6 inputs: B I-II / B III / VHF-UHF and 3 UHF inputs split over 10 UHF programmable clusters
- Each cluster with 1 to 7 channels bandwidth
- All settings by WISI handset OK 41 / OK 41A
- COPY function permits transfer of all settings from one unit to another
- OK41A handset with memory function for saving up to 10 settings to copy them to another unit
- Highly selective filters
- Low noise figure and high gain split band amplifiers
- High output level of 123 dB μ V
- Automatic levelling of signal or manual via 30 dB attenuator
- Selectable remote power on VHF-UHF and UHF inputs
- -30 dB test output



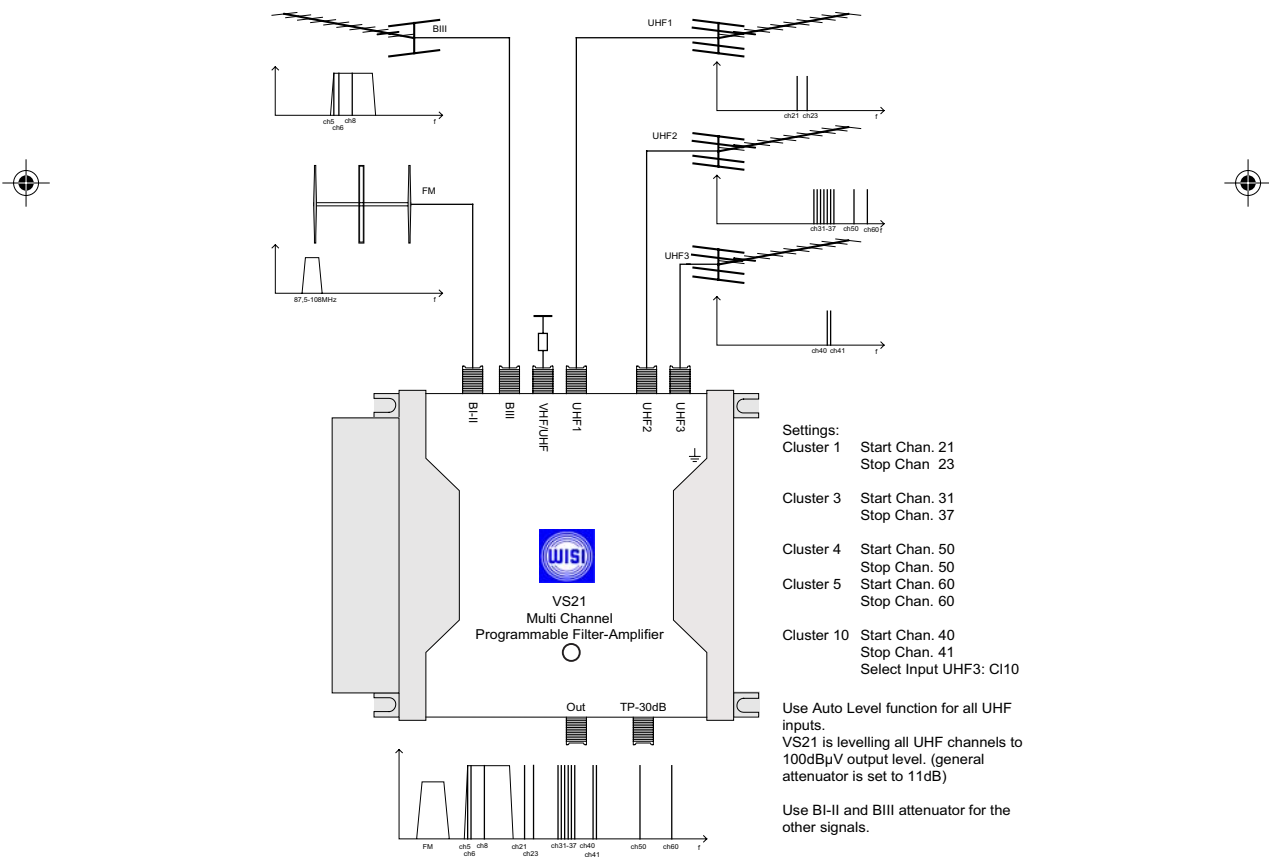


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Operating principle





Safety and installation notes – please observe!



Caution

The mains voltage must match the rated input voltage of the unit (230 VAC).

Connecting cable — Lay the cable so that no-one can trip over it.
— Lay the cable with a downward loop so that any water condensing on it can drip on the floor instead of running into the unit.

Selecting the installation location

Excessive temperatures will reduce the operating lifetime of the unit. Do not install the unit directly above or in the vicinity of radiators or heating systems where it would be subjected to thermal radiation or oil vapours.

Cleaning

Only use a dry soft cloth to clean the cabinet. Do not use solvent

Moisture

Water dripping or splashing onto the unit will damage it. If there is condensation on the unit, wait until this has evaporated before switching the unit on.

Caution – danger!

In accordance with EN 50 083-1, the antenna system must comply with the safety requirements with respect to grounding, potential equalisation, etc.

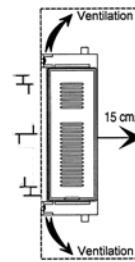
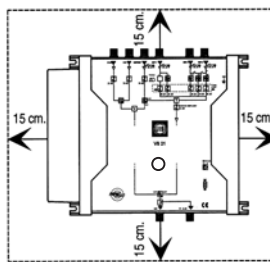
Service work

Service work may be carried out only by qualified personnel. Always disconnect the supply voltage before starting any such work.

Important

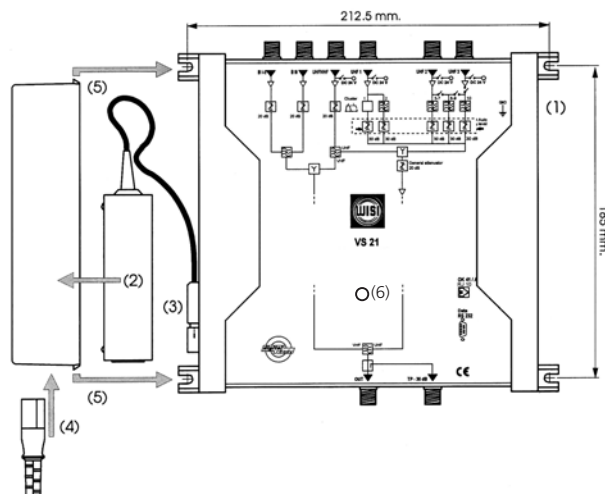
This amplifier is equipped with a fan on the back side to improve cooling capacity. Leave a minimum space of 15cm around to the product to guarantee a maximum of ventilation.

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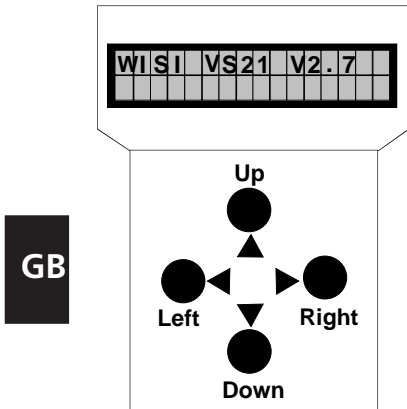
Mounting — Dimensions

1. Ground
2. Place the adapter into the holder
3. Connect the power supply to the amplifier
4. Plug the mains cable to the adaptor. LED (6) illuminates.
5. Click the adapter holder to the amplifier



Operation with handset OK 41 / OK 41A

Handset OK 41 / OK 41A (Accessory)



OK 41A = (Accessory)

Standby

Plug the handset into the socket.

Connect power supply voltage to basic unit.
The software version (e.g. „V 2.7“) is displayed.

Press any key to call the module menu.

Main menu

- ▲▼ keys — Select parameters
- ▶ key — Move to parameter menu.
- ◀ key — Back.

Parameter menu

- ▲▼ keys — Select parameter.
- ▶ key — Move to parameter sub-menu.
- ◀ key — Back.

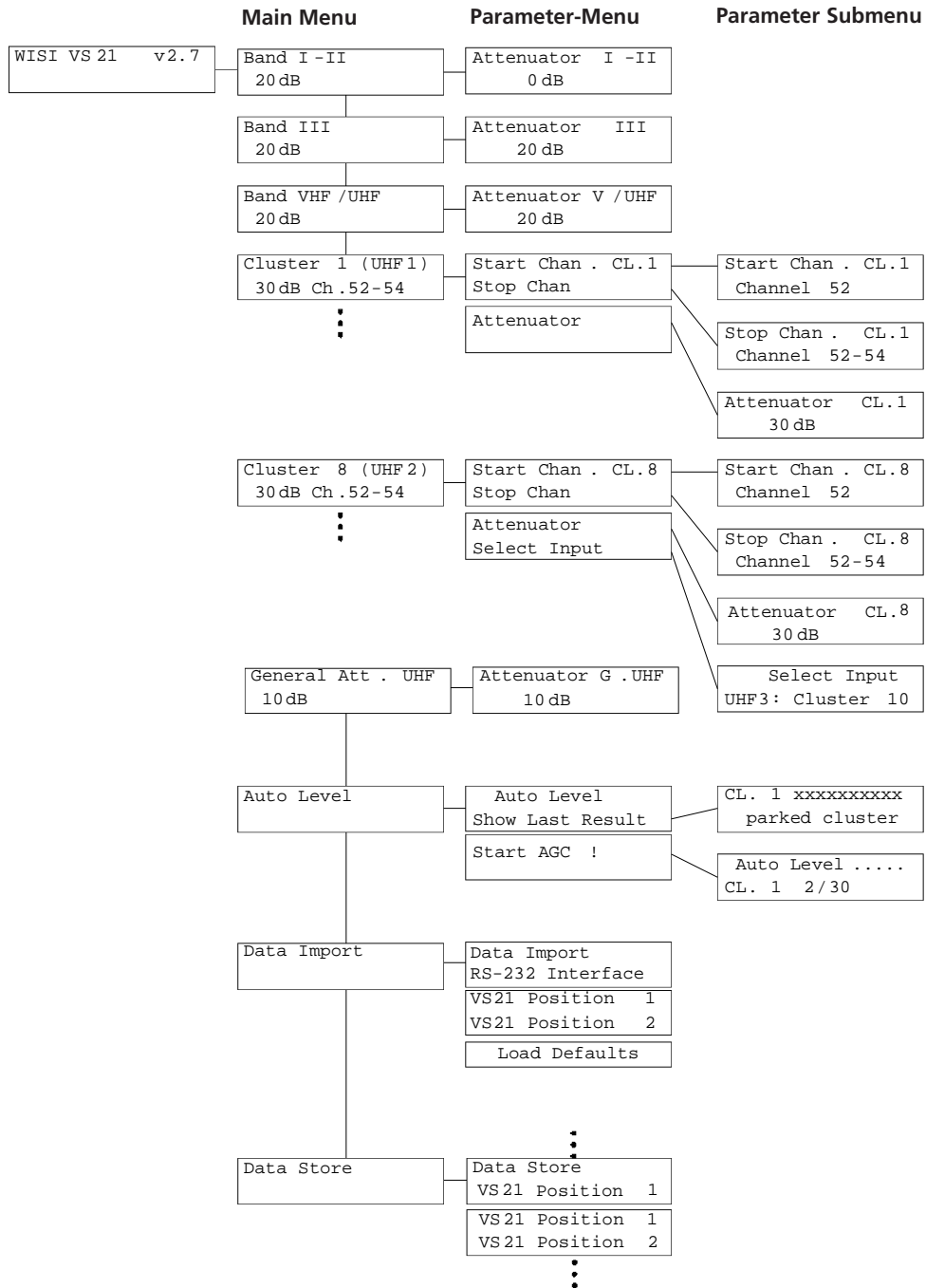
Parameter sub-menu

- ◀▶ keys — Back
- ▲▼ keys — Change the value, e.g. change 52 to 62.

- **Saving data:** data are saved automatically.



Menu structure

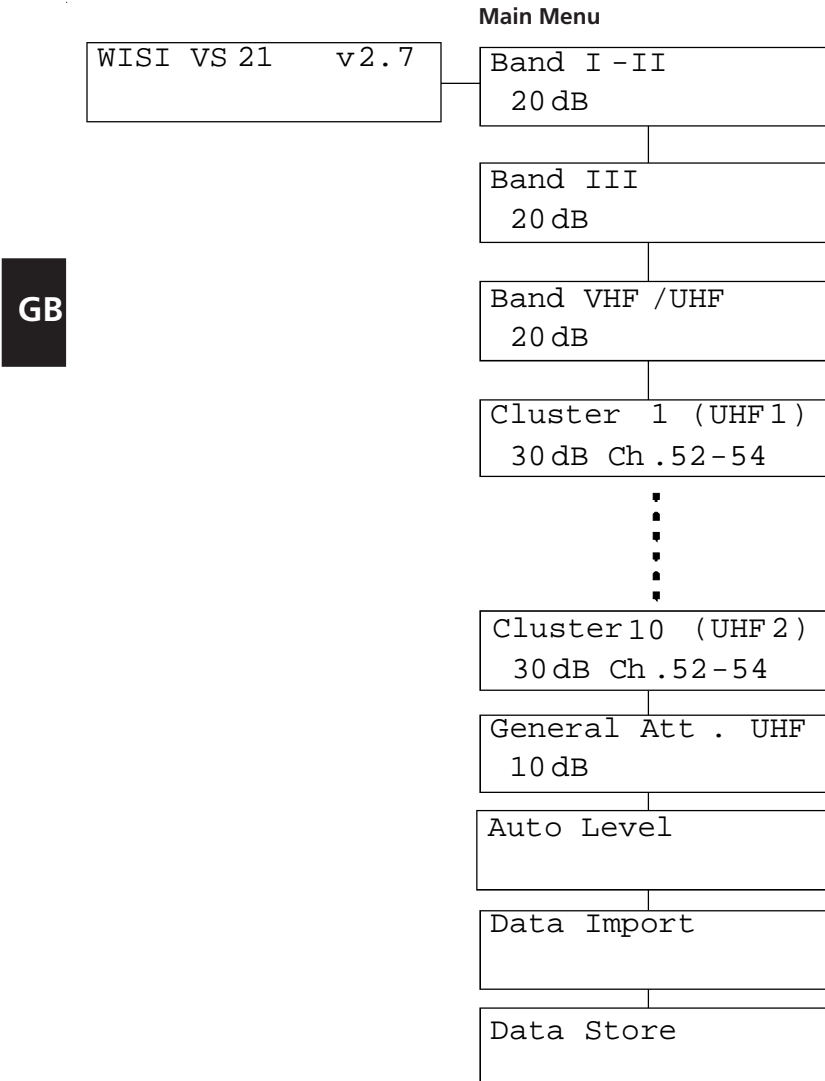


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Main Menu

Press ► to enter the "Main Menu". Press ► again to enter the "Parameter-Menu".





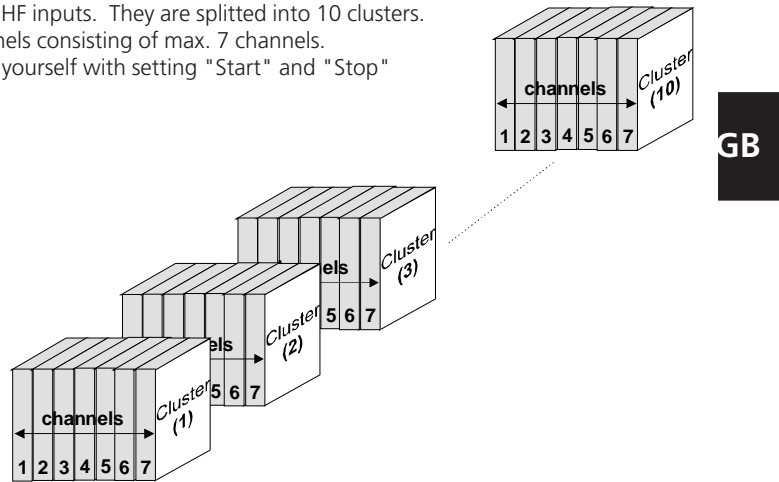
Attenuator settings

Enter with ► the "Parameter Submenu" and change the attenuation with ▼▲ buttons.

Band I -II 20 dB	Attenuator I -II 20 dB
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Cluster programming

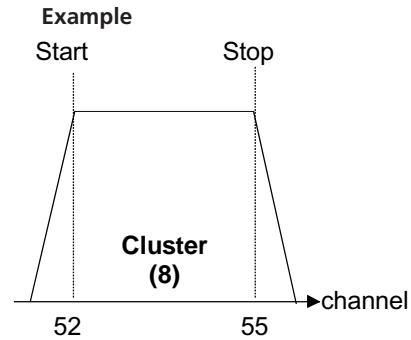
The amplifier consists of 3 UHF inputs. They are splitted into 10 clusters.
A cluster is a group of channels consisting of max. 7 channels.
Choose the combination by yourself with setting "Start" and "Stop" channels.



Setting Start and Stop channels

1. Select one of the cluster 1...10 and press ► button.
2. First select "Start Channel" and set the Start channel.
3. Press ◀.
4. Select "Stop Channel" and set the "Stop channel".

Start Chan . CL.8 Stop Chan	Start Chan . CL.8 Channel 52
Attenuator	Stop Chan . CL.8 Channel 52-55
	Attenuator CL.8 30 dB





Single channel mode

Note:

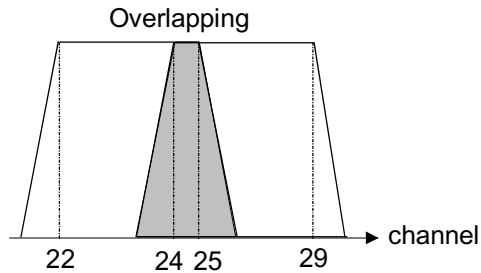
Setting the "Start channel" (example ch 33) also sets the "Stop channel" autom. to ch 33.

Switching off a cluster

- Select "Start" channel and set to OFF.
- The "Stop" channel "is set autom. to OFF.

Overlapping cluster

- * The digit displays overlapping.



5. Attenuator

- Set the attenuator 0-30 dB for each cluster.

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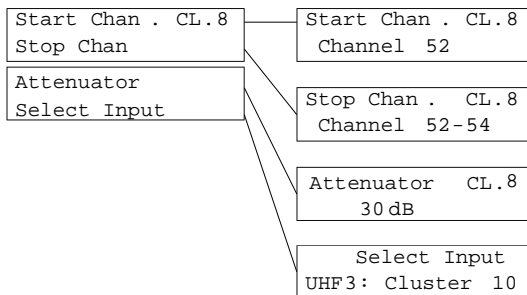
Setting cluster inputs

The 3 UHF inputs of the amplifier are splitted into 10 clusters.

The input can only be configured for cluster 8, 9, and 10.

Select the "Parameter-Submenu" and configure the inputs.

UHF 1	UHF 2	UHF 3
2	8	0
2	7	1
2	5	3



Note:

Cluster 1 and 2 are assigned to UHF 1.
 Cluster 3, 4, 5, 6 and 7 are assigned to UHF 2.
 Cluster 8, 9 and 10 are assigned to UHF 2 or 3.

Each cluster can be set to OFF. For example: only one cluster is needed for UHF 2 switch OFF the other clusters.



General attenuator UHF

Select in the "Main Menu" - "General Att. UHF" and press ► again to enter the "Parameter-Menu". All input levels can be set. The default setting for this attenuation is 11 dB.

General Att . UHF 11 dB	Attenuator G .UHF 11 dB
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Automatic level adjustment

1. First select the START and STOP channels for each cluster.
2. Set the clusters to OFF which are not in use.
3. Start "AGC".
4. The amplifier starts levelling automatically the clusters.

This procedure will take about 1 to 2 minutes, depending on the number of channels and clusters to be equalized.

5. The amplifier displays the results in the parameter sub-menu:

```

CL. 1      XXXX | XXX | XI
           /   |   |   |
        cluster 1  cluster 5  cluster 9
        parked cluster  signal weak  signal strong
  
```

Note:

The automatic level adjustment set the output level of the clusters at 100 dBµV (for an input level between 50 to 80 dBµV).

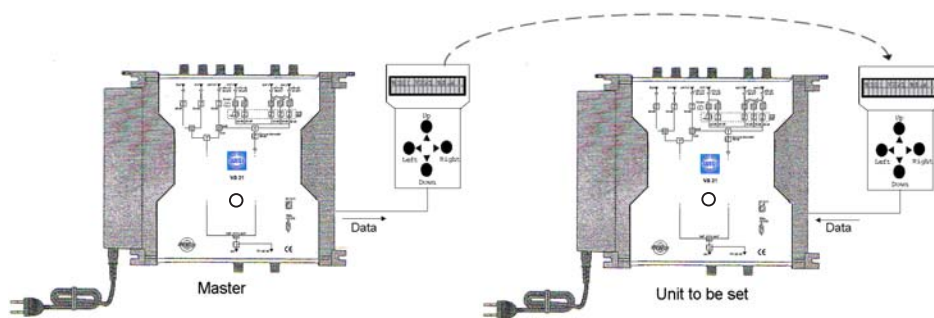
The general attenuator is fixed to 11 dB after the automatic level adjustment. It can be adjusted from 0 to +20 dB to get a level between 90 to 110 dBµV (see "General Att. UHF").

The difference between analog and digital signals is very small. You can correct this after automatic levelling has finished.

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Copy function with OK 41A (Accessory)

The data import function allows to store settings from the OK 41A handset or from another VS 21. The OK 41A consists of 10 "Memories". Select one of the OK 41A memory ("Position1...10"). Select "Data import" to store the datas from master and restore to the -Unit to be set- with "Data Store"





Specifications

Inputs	BI-FM	BIll	VHF-UHF	UHF 1	UHF 2	UHF 3
Frequency range (MHz)	47-108	174-240	47-240 + 470-862	470-862	470-862	470-862
	-	-	-	8-56 (1 to 7 channels / cluster)		
Configuration of clusters	-	-	-	2	8	0
	-	-	-	2	7	1
	-	-	-	2	5	3
Gain (dB)	35	40	40	55		
Attenuator (dB)	20	20	20	30		
General UHF level adj. (dB)	-	-	-	0 to 20		
Noise figure (dB)	6	6	6	6		
Max. input level (dBµV)	80	80	80	80		
Max. output level (dBµV)	118	118	VHF:118 / UHF:123	123		
Selectivity	-			typ. 10 dB / 10 MHz		
Return loss IN / OUT (dB)	> 7	> 8	> 5	> 6	> 6	> 6
Selectable remote power 24V / 100 mA in total	No	No	Yes	Yes	Yes	Yes
Test output (dB)	-30					
Data transfer	RJ10 / DSUB9 connectors					
Power supply	230-240 V~ / 15 V DC / 14W					
Operating temperature °C	-5 to +50					
Dimensions mm	265 x 220 x 72					

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 Technical modifications reserved

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