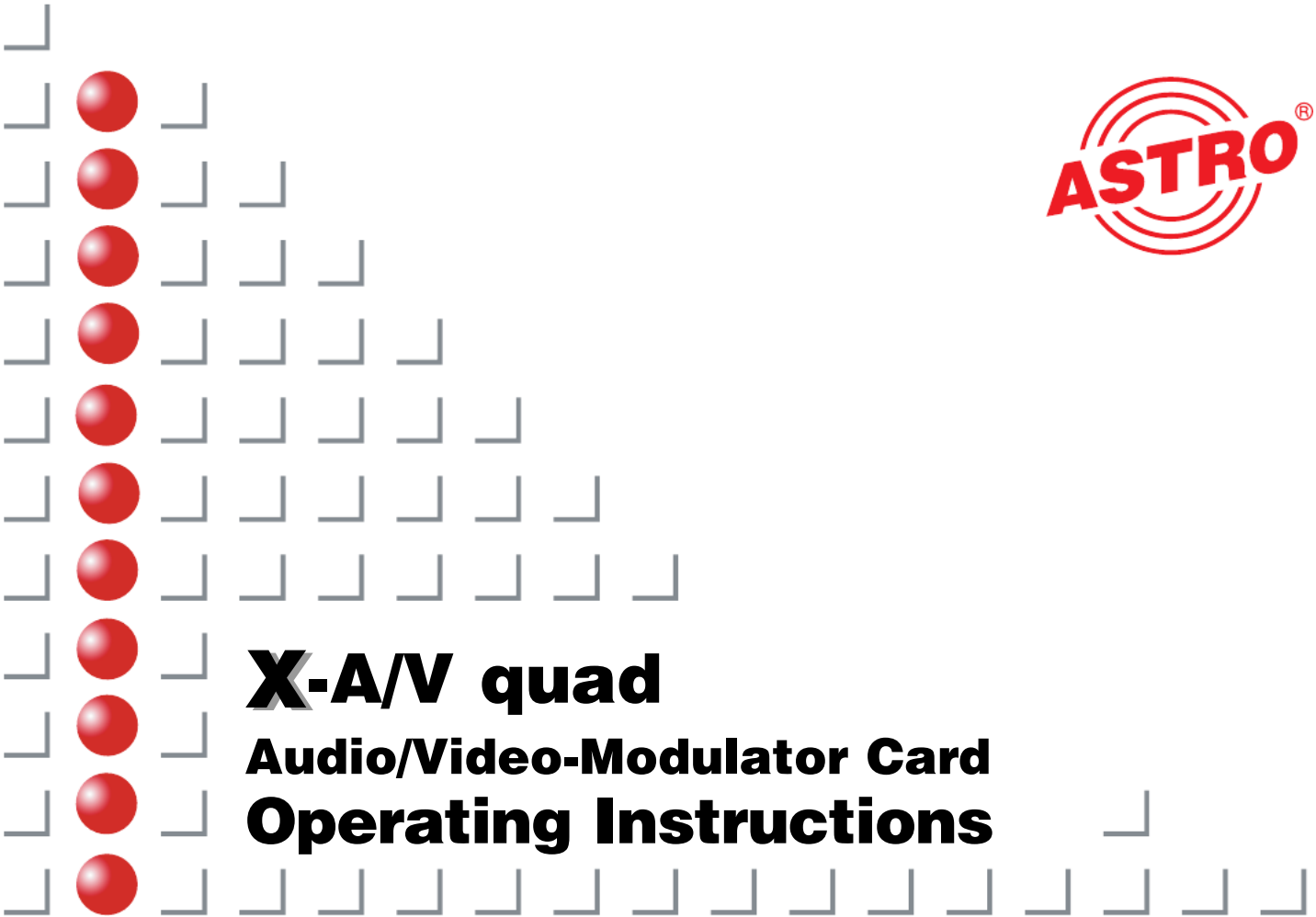
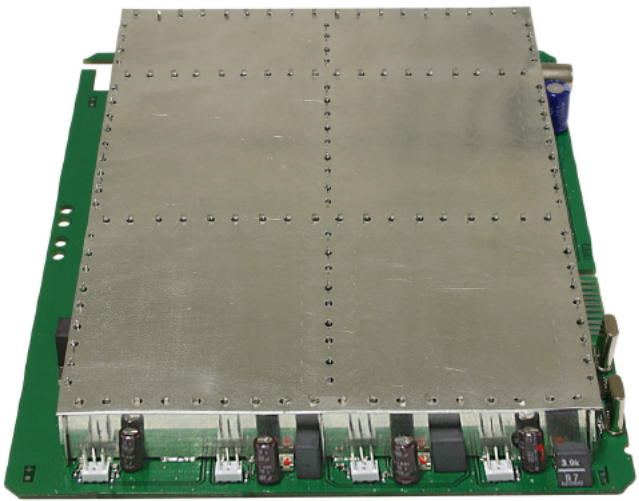


X-A/V quad

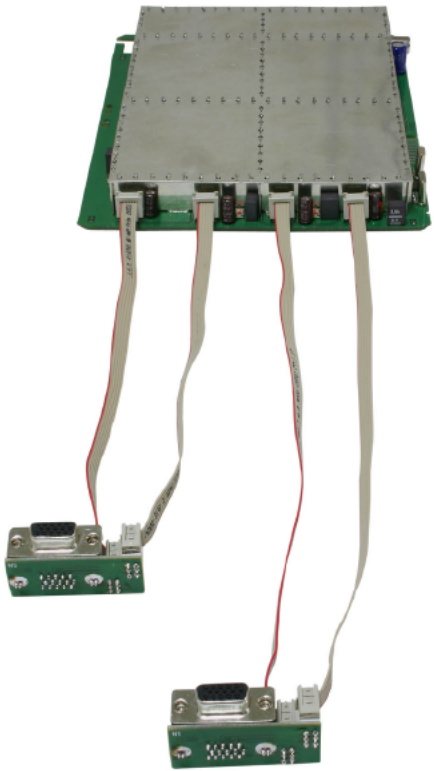
Audio/Video-Modulator Card

Operating Instructions



Electronic equipment is not household waste – in accordance with directive 2002/96/EC OF THE EUROPEAN PARLIAMENT AND THE COUNCIL of 27th January 2003 on used electrical and electronic equipment, it must be disposed of properly. At the end of its service life, take this unit for disposal at a relevant official collection point.

Illustrations



Contents

1 Description

The X-A/V quad is used to modulate four audio and/or video sources and convert them into standard TV signals in the frequency range from 47 – 862 MHz. The card has two output converters which belong together, which means that up to four A/V signals can be processed in pairs and converted to two pairs of adjacent channels. All four output channels can be switched on and off independently of each other. The levels of the individual boards are equalized via the HE programming software or the KC 3 handheld programming device. The X-A/V quad can only be used in combination with the V16 and X-8 twin base units, as these have the necessary mounting hardware for the input jacks (a full complement of X-A/V quads can only be installed in combination with the V16.13/X-8 twin base unit, otherwise a maximum of only two X-A/V units is possible).

The video signals which are to be fed in must comply with the FBAS standard (PAL/CCIR 405-1) and have a level of 1 Vpp. It is extremely important to ensure that this level is met exactly, as no level control is provided. In addition, when setting up the plug-in card and starting to use it for the first time, make sure that all channels have the same output level and that they are matched to any existing systems.

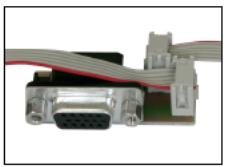
Please note:
These modules must only be replaced or exchanged by an authorized specialist who has been certified by the Chamber of Commerce and Industry (master workshop). The hazard warnings and safety precautions contained in the operating instructions of the base unit and the relevant safety regulations according to DIN VDE regulation 0701, part 1 and 200, must be followed.

2 Installation and connection

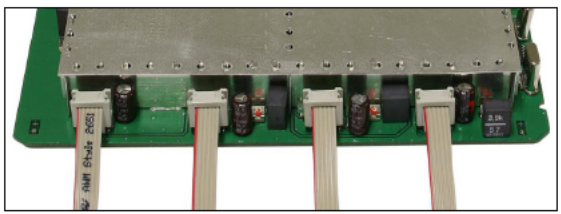
2.1 Installation in the base unit

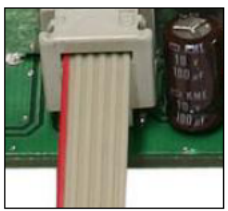
Install the plug-in card in accordance with the description.

Important:
The X-A/V quad must not be used in conjunction with any other base units than those listed above.



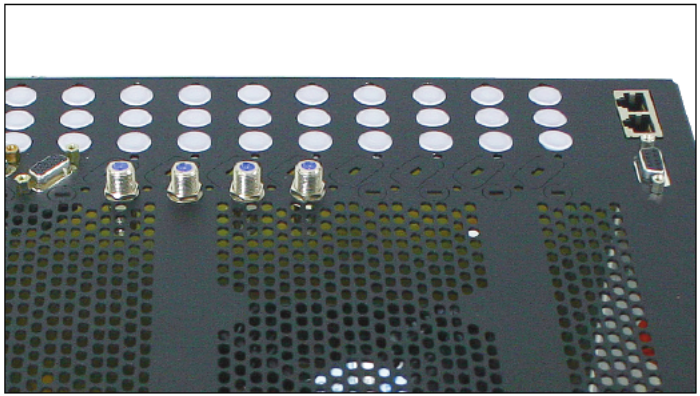
Remove the covers from the base device (plug-in card slot) and insert the supplied female connectors. Check that the post connectors are correctly positioned on the plug-in card and on the adapter PCB..



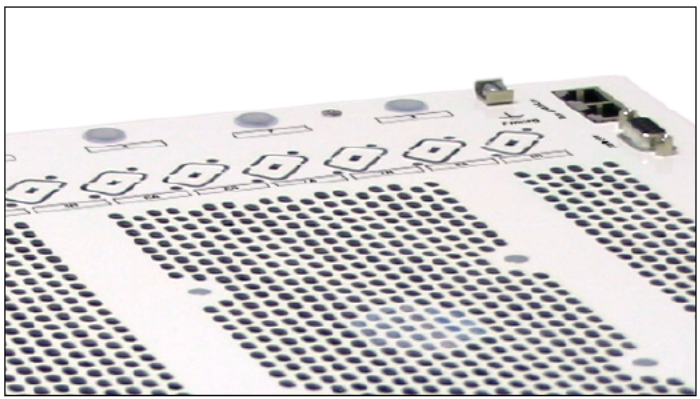


Insert the plug-in card and push on the post connectors (observe the correct orientation).

2 Installation and connection



V16.13



X-8

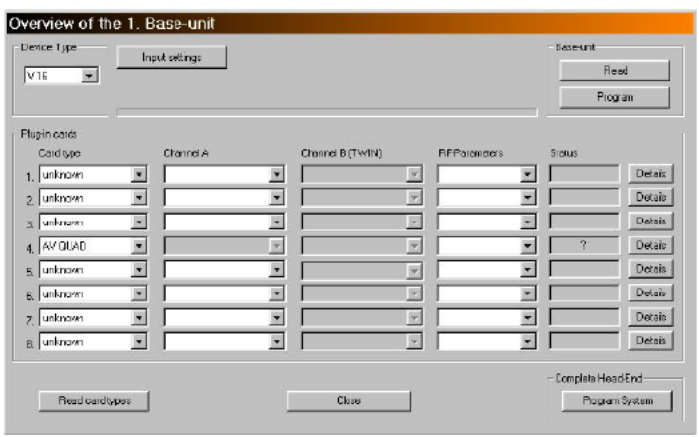
2.2 Connection of source devices

A VCP 15-2 connecting cable (order no.: 350151; 1.4 m) is required in order to connect an A/V audio source device, such as a DVD player, camera etc. The cable has a 15-pole Sub-D connector at one end and 2x 3-way Cinch/RCA connectors at the other end.

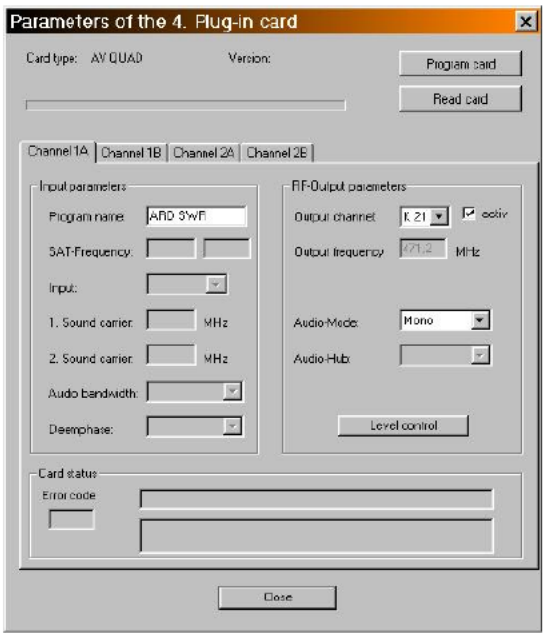
VCP 15-2

3 Programming with the HE programming software

Once it has been installed in the base device, the X-A/V quad card can be programmed with the HE programming software. After the base unit has been read out, the overview window of the base unit will show the X-A/V quad card on the slot on which it is installed.



As there are four different output channels, the RF-output parameters are defined in the card details rather than in the overview window of the base unit.
To access this screen, click on the “Details” button.
All settings relevant for operation of the module are made here.

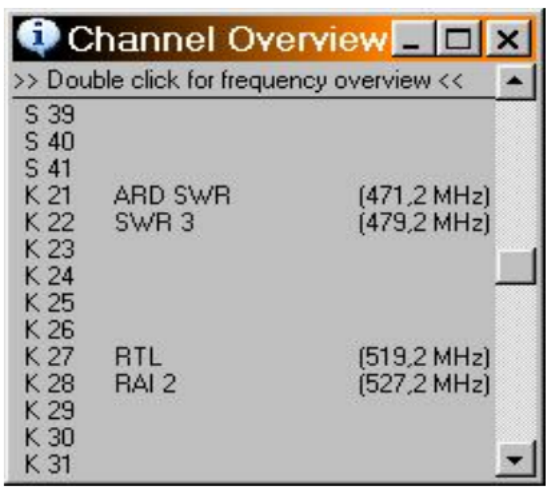


In the “Input parameters” field you can enter the program name. Under the output parameters you can activate or deactivate the output channel and define the audio mode (Stereo, Mono or 2-channel).

3 Programming with the HE programming software

The output channel is also defined at this point. Please note that by defining the A channel for a pair of channels you are also defining the B channel as its adjacent channel.

The allocation of output channels is shown in the “Channel Overview” window:

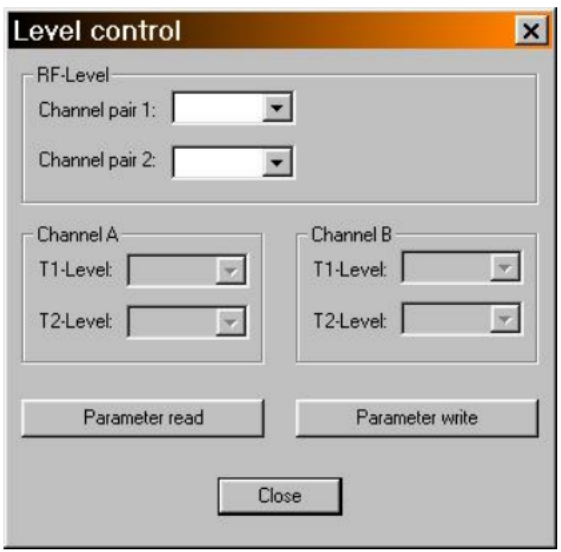


Double-click in this window to switch between the channel allocation and the frequency overview.

The X-A/V card is provided with electronic level equalization. This means that the output level is set via the HE programming software and not via a level adjuster. The “Level control” button activates this function.

Here you can attenuate the output level in steps of 0.5 dB.

After an attenuation value has been selected, it must be transferred to the card by clicking on the “Write parameters” button. If the values are not known then they can be read out and displayed via the “Read parameters” button.



4 Programming sequence

4.1 Structure

The software is divided into two main groups.

1) Start menu

The software version number is displayed.
Please quote this version number whenever contacting our customer service department.

The Start menu can only be accessed again later on by unplugging and replugging the KC 3.

2) Programming the channel-specific parameters

The channel-specific parameters are programmed in two menus.

Line 1: **Menu** Select plug-in card slot/channel group
Lines 3+4: **Menu** RF output data (modulator parameters)

In general, the programming sequence should follow the hierarchy of the lines, i.e. start by

- selecting the plug-in card/channel group (line 1), then
- enter the RF parameters (lines 3+4) for the plug-in card.

4.2 Moving between menus

- Use the ↑ and ↓ arrow keys to change between rows.
- Press the MENU button to change between sub-menus in a row.

4.3 Entering parameters

- Enter values directly via the keypad, or
- Adjust the pre-defined parameters (e.g. Sat level) in steps using the ← or → cursor keys.

Important:
- The numerical values must be entered in full.

4.4 Saving

- Once all entries are complete the parameters need to be saved so that they are adopted (i.e. set) by the card and are protected against data loss in the event of a power failure.
- Save the parameters separately for each channel group.

Press the STORE button to save the set parameters.

4.5 Programming the card-specific parameters

Once you have reached the required slot / channel group by pressing the ← or → cursor key in line 1 and then selected line 3 or 4 with the ↑ or ↓ cursor key you will come to the menu for
Defining the RF output parameters.

4 Programming with the KC 3

The RF output parameters are defined either by entering the video carrier frequency directly using the keypad (row 3), or by changing the output channel value (line 4) step-by-step with the ← or → cursor keys.

Please note:
As both channel pairs are converted jointly by one modulator, the output frequencies of one channel pair must not be adjusted independently of each other. The frequency specified in channel A of a group is always decisive; channel B is automatically assigned an offset corresponding to the channel configuration.

Accordingly, the output frequency should always be adjusted via the channel selection in row 4. This ensures that the video carrier automatically receives a frequency which corresponds to the channel configuration.

With the cursor in the third row, click on the “Menu / Read” button to open the

Audio mode selection menu.

Use the ← or → cursor keys to change the audio mode. You can choose from Mono, Stereo or 2-channel sound. Press the “Menu / Read” button again to go to

Activation and deactivation of the output signal:

Use the ← or → cursor keys to activate or deactivate the output signal.

Press the “Menu / Read” button repeatedly to go to the

Error messages:

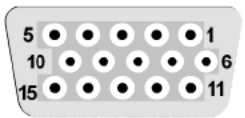
In the event of a hardware fault on the plug-in card or channel group an error code is output here. Please contact our customer service department if this happens.

Setting the output level:

On the X-A/V quad, the level is equalized electronically. The RF level can be attenuated in steps of 0.5 dB using the ← or → cursor keys.

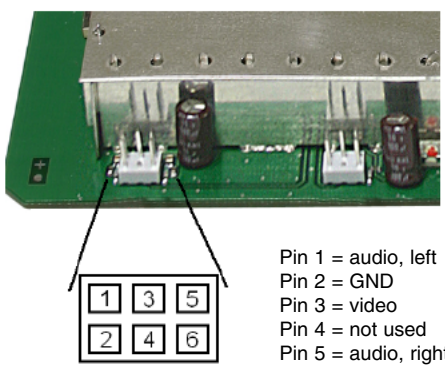
As was already mentioned in point 4.4, it is essential that any changes are saved.

5 Pin allocation



Pin 1 = audio input, left
Pin 2 = video input
Pin 3 = not used
Pin 4 = not used
Pin 5 = not used
Pin 6 = audio input, right
Pin 7 = not used
Pin 8 = GND
Pin 9 = GND
Pin 10 = GND
Pin 11 = GND
Pin 12 = video input
Pin 13 = audio input, left
Pin 14 = audio input, right
Pin 15 = GND

Pin allocation of the post connector:

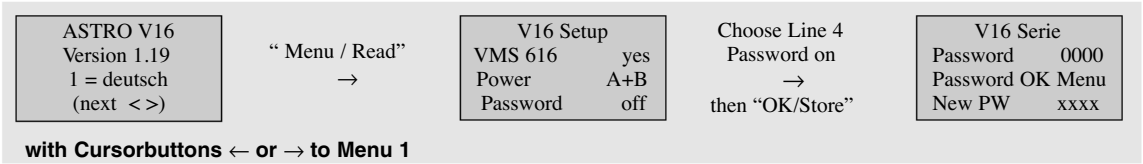


Pin 1 = audio, left
Pin 2 = GND
Pin 3 = video
Pin 4 = not used
Pin 5 = audio, right
Pin 6 = GND

Type		**X-A/V quad**
Order no.		380 322
RF modulator		
Output frequency	[MHz]	(47) 110–862
Output channels		(C 2– C 69) S 2– C 69
Output level	[dBµV]	90 – 100
Signal-to-intermodulation ratio	[dB]	typ. 60
Active return loss	[dB]	> 10
Signal-to-spurious emission ratio	[dB]	typ. 60
TV standard		B, G
Video signal-to-noise ratio	[dB]	typ. 54 overall device
Audio/Video		
Input		15-pole SUB-D socket (2x A/V input signals per socket)
Audio		
Input level	[V RMS]	0,5 / 10 kΩ
Frequency range		40 Hz – 15 kHz
Noise level distance	[dB]	typ. 45
Video		
Bandwidth		25 Hz – 4,8 MHz
Input level		1 Vss / 75 Ω
Common data		
Ambient temperature	[°C]	0...+ 50

7 Short-overviev of programming steps

Start menu (appears once only after plugging in the KC 3):



with Cursorbuttons ← or → to Menu 1

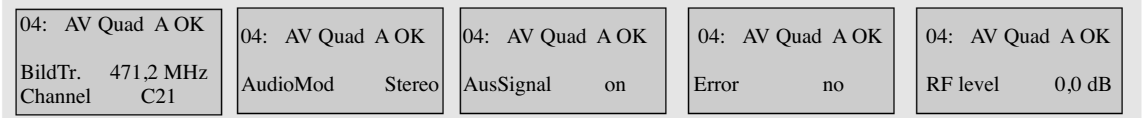
Menu 1 – Selecting the channel group:

Choose line 1 with Cursorkeys ↑ or ↓. With Cursorkeys ← or → choose the channel

with "Menu / Read" -key switch between the submenus

Menu 2 – Output parameters:

Choose line 3 with Cursorkeys ↑ or ↓



with "Menu / Read" -key switch between the submenus

GmbH

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