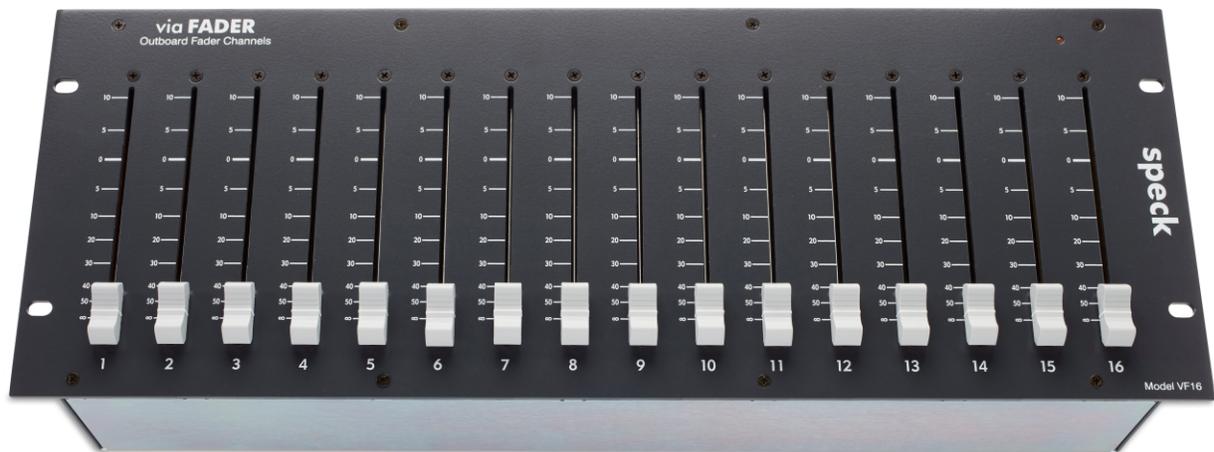


via FADER

Outboard Fader Channels

Models VF10 and VF16

Reference Manual



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Introduction

Thank you for purchasing our via Fader Outboard Fader Channels. The via Fader (V.F.) has operational features that are easy to understand and you should be up and running in no time. If you are unfamiliar with audio equipment or audio signal flow, it is recommended that you read this manual. If you have any questions regarding the V.F. or any Speck product, do not hesitate to contact Speck Electronics.

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General Description

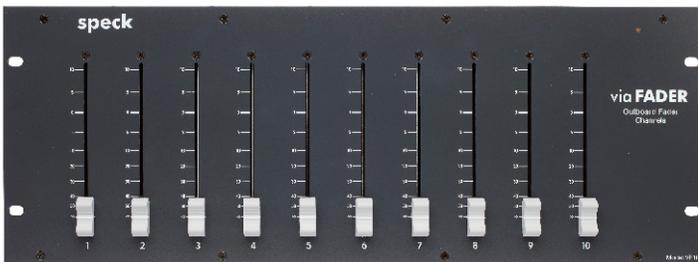
The via Fader is available in 4 models:

VF10 - 10 Outboard Fader Channels

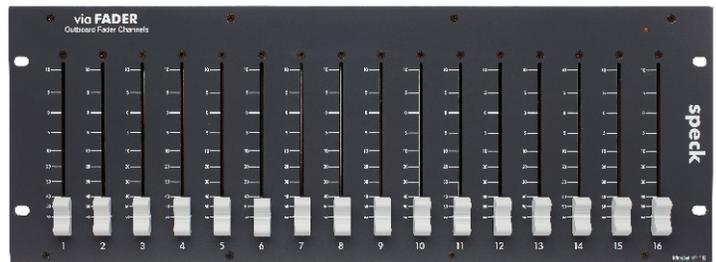
VF16 - 16 Outboard Fader Channels

VF10M - 10 Channel Outboard Fader System with mix assign and master outputs

VF16M - 16 Channel Outboard Fader System with mix assign and master outputs.



Model VF10



Model VF16



Model VF10M



Model VF16M

This manual has been prepared for the VF10 and VF16. **Unless otherwise noted, all references in this manual will be for the via Fader Model VF10.** There is no operational difference between the two models except for the number of fader channels.

The via Fader (V.F.) is an outboard fader channel available with 10 or 16 slide fader channels. No VCA's, no CMOS switching, and no A/D - D/A converters... just 100% analog signal path.

Each fader channel has the necessary input and output electronics to allow the V.F. to interface to any balanced, unbalanced, transformer, or transformer-less line level signal. But most importantly... no additional mixer or audio interface is required. The V.F. has high headroom that will handle balanced signals up to +28dBu. All audio inputs and outputs are fully balanced and available on DB-25 connectors.

With its clean, uncluttered layout, the V.F. can be placed in a convenient desktop location or installed in your 19" rack.

Standard Accessories

- **PS4-V Power Module**

 - PS4-V-NA for 100 and 120VAC Mains

 - or-

 - PS4-V-EU for 220, 230, and 240VAC Mains

- **Operations Manual**

Installation

General

The following information should give you the basics on how to install the via Fader (V.F.) and power module. The proper installation of the V.F. requires a clear understanding of audio wiring, AC distribution, grounding, and shielding techniques.

If the V.F. is being installed into a larger studio or as an expander to a host console, it may be necessary to retain the services of someone experienced in these matters.

Unpacking & Inspection

The V.F. is delivered in a special protective container and was carefully inspected both mechanically and electrically before shipment. All items should be physically free of marks and scratches and in perfect electrical order upon receipt. To confirm this, the mixer and power supply should be inspected for physical damage that may have occurred in transit. Any damage should be reported to your dealer or delivery company as soon as possible.

If the product is to be shipped to Speck Electronics for service or repair contact Speck Electronics for a Return Merchandise Authorization (RMA). Include the model number and serial number of the product. Place the product in the original container if available. If the original container is not used, wrap the product in heavy plastic before placing in an inner container. Use plenty of packing material around all sides of the product and protect panel faces with cardboard strips. Mark shipping container with "Delicate Instrument" or "Fragile", and insure the shipment for the proper amount.

Cleaning

To clean the front panel, wipe the surface gently using a soft lint-free cloth to avoid scratching the panel or markings. Paper towels are not recommended. Commercially available window cleaner solutions may be used; however, the solution should be applied to the cloth and not the panel to avoid the seepage of liquid to the inside of the enclosure.

Do not use brushes or feather dusters to remove dust. This may cause dust to fall into the openings around the slide fader and pushbutton switches.

Mechanical Installation

The via Fader was designed to be placed on a desktop or installed in a 19" rack. The location of the via Fader should be such that the operator has a clear, unobstructed view of the front panel from his/her normal operating position. The unit should also be within easy reach of the operators' normal position in order to facilitate the use of the front panel controls.

Power Module Installation

The V.F. is shipped with an external 16 VAC power module. The power module has a 6' cable and is fitted with a special 10 pin connector for mating to the "Power Input" on the rear of the V.F. All AC rectification, filtering, and DC regulation is performed within the chassis of the V.F.

The PS4-V power module is available in 2 versions; a North American version and European version. The North American version (PS4-V-NA) is designed to operate with 100 or 120 VAC power and the European version (PS4-V-EU) is designed to operate with 220, 230 or 240 VAC power.

Use only the PS4-V external power module that is supplied with your V.F. mixer. Using any other power module or power source will most definitely damage the V.F.



PS4-V-NA



PS4-V-EU

To connect the power module to the V.F., fit the 10 pin rectangular connector to the chassis mount receptacle on the bottom of the V.F. The respective connectors are keyed so the plug and the receptacle can fit in only one direction. Before connecting the 10 pin rectangular plug to the V.F., make certain the power module is not connected to an AC receptacle.

The PS4-V power module has an internal "one shot" thermal fuse. Fuse replacement is not possible with this module. If it has been determined that the power module has failed, contact Speck Electronics for a factory replacement at +760-723-4281.

The power module is a "Class 2 transformer" device and can only be used indoors. The V.F. and power module should never be exposed to rain or moisture.

Because the power module uses a 2 bladed AC plug, audio signal grounds and DC common at the V.F. are isolated from the AC safety earth. The chassis of the V.F. can be connected to earth by way of the chassis ground terminal on the rear panel.

Power Module Mounting location

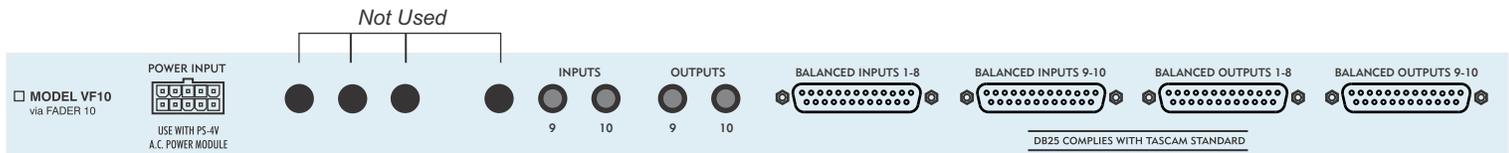
One of the primary reasons that the PS4-V power module is external is to insure that its power transformer maintains a safe distance from the active electronics of the V.F. It is recommended that the power module be located at a reasonable distance from the V.F. and audio cables. For that matter, any device that has a strong magnetic power field should be kept at a reasonable distance from the V.F. and its audio cables.

The external power module does not provide an AC power switch. It is recommended the power module be plugged into an AC power strip that uses a power switch.

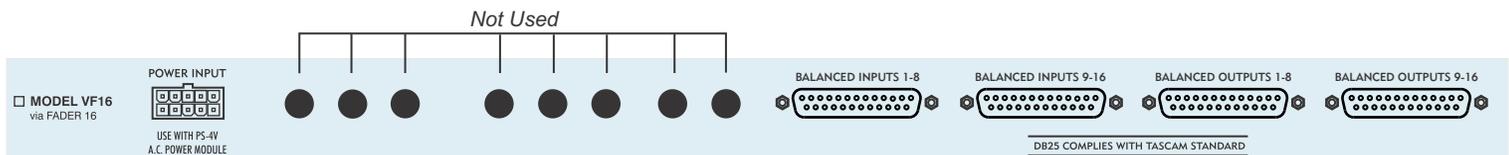
Physical Placement of Adjacent Equipment

Any device that emits a high EMI (Electro Magnetic Interference) or RFI (Radio Frequency Interference) energy field should be treated with suspicion. EMI is considered any unwanted signal which adversely affects the operation of the via Fader or the mixing system.

Electronic equipment such as power amplifiers, power supplies (especially wall mount type), video monitors, computers, certain synths and samplers must be located away from the V.F. and its associated cables. It may be necessary to alter the positions of certain equipment that you feel would cause buzzes or hums in the mixer system.



Model VF10



Model VF16

Hooking up the via Fader

The via Fader will require a minimum of two (2) DB-25 harnesses to operate; one (1) for the inputs and one (1) for the outputs. A complete system will require a maximum of four (4) DB-25 harnesses and various 1/4" TRS cables.

The rear panel connectors of the Model VF10 differ slightly from the VF16 in that the VF10 includes balanced 1/4" TRS jacks for inputs and outputs 9 and 10. These jacks are wired in parallel with the DB-25 connectors and can be used if you chose not to use DB-25 harnesses for the connections 9-10.

Due to the high performance of the V.F. it is recommended that you use only the highest quality audio cable. A high quality cable by definition is a cable that provides good mechanical strength, high microphonic noise immunity, high frequency response, low crosstalk, and 100% shielding ability. All audio cable used with the V.F. should be a 3 conductor foil shield type (2 inner conductors and a shield drain conductor). It is not recommended that the 2 conductor "off the shelf cables" be used.

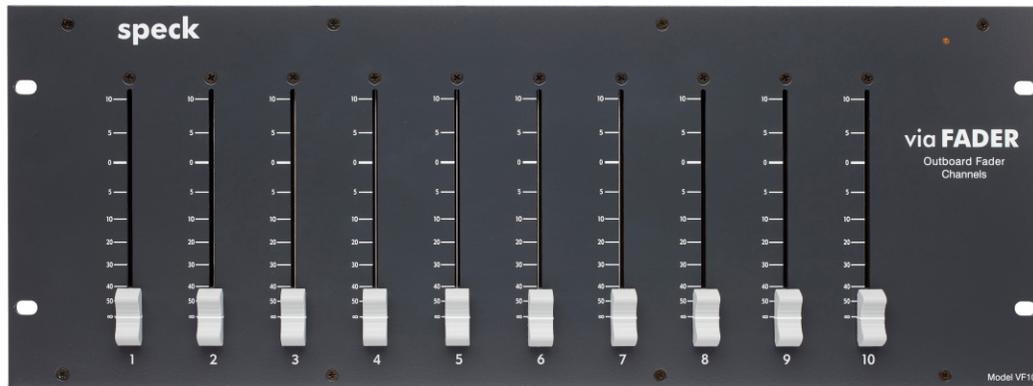
All wire and cable interfaced to the V.F. should be terminated with high quality connectors. A 1/4" plug or XL connector should make a positive connection to its respective mating jack and provide adequate strain relief to its cable. All connectors should also have a metal shell to provide 100% shield for exposed conductors.

We do believe that "you get what you pay for" and advise not to purchase lower quality cables. We recommend that you purchase from a reputable cable manufacturer that uses brand name materials. Brand name cables include (in no particular order) Mogami, Canare, Belden, Gepco, Redco, and ProCo. Connector brands include Switchcraft and Neutrik.

When the time comes to actually interconnect your equipment, proceed slowly. Interfacing the many pieces of electronic equipment to your via Fader and audio system should be a logical and methodical process. Start by connecting one line signal at a time; carefully listening and monitoring your progress. If a problem arises, such as a buzz, hum, intermittent signal, or nonexistent signal, stop at that point and solve the problem before proceeding.

Care should be taken to support the DB-25 audio harnesses as not put stress on the chassis mounted DB-25 connectors.

Operation



Model VF10 Top



Model VF10 Rear

Overview

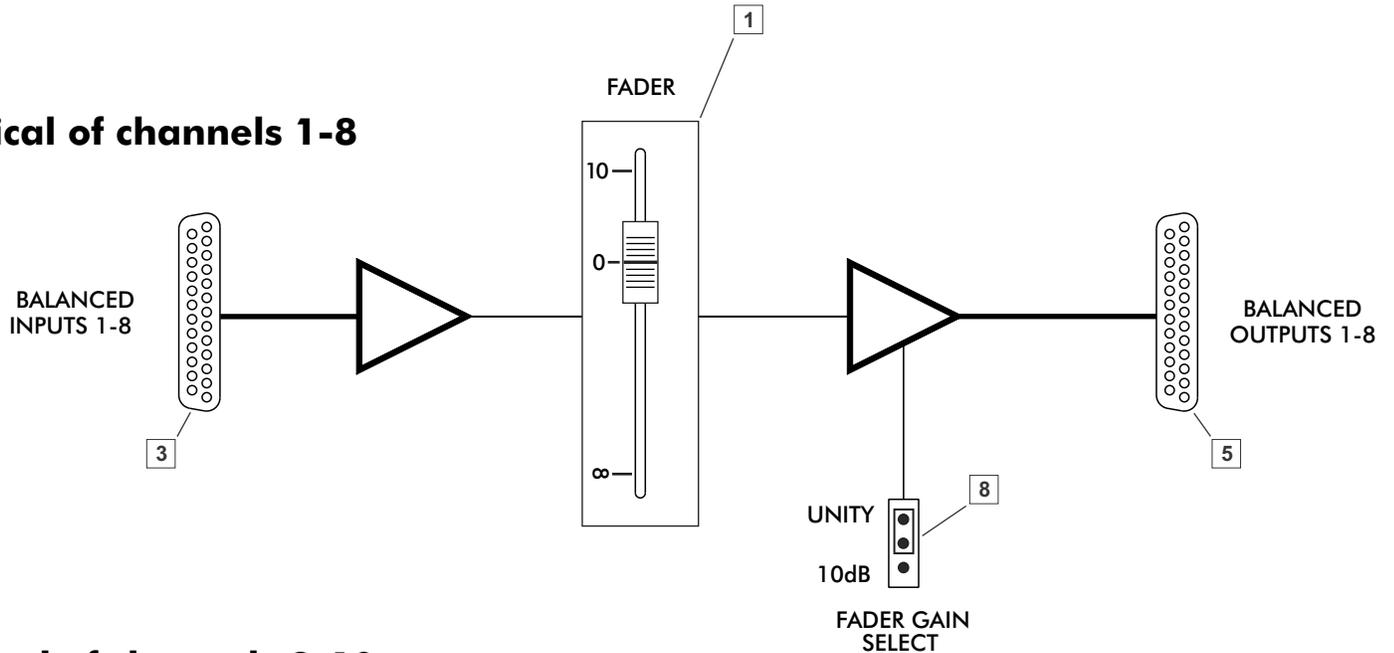
In this section we hope to give you basic information on the operation of the via Fader (V.F.) and adequately describe its controls and connectors.

The information in this section of the manual is intended to help with the technical process when using your V.F. Words alone could not adequately describe how to adjust the controls for every situation you might encounter with the V.F. You should experiment with fader levels to achieve the best results for any particular situation. Your ears should be your best gauge of how to adjust the faders on the V.F. to make the sound fit your requirements.

Signal Flow Diagram For Model VF10

Use this channel signal flow diagram shown below as a reference when reading the descriptions of the controls and connectors [1] through [8] in this chapter.

Typical of channels 1-8



Typical of channels 9-10

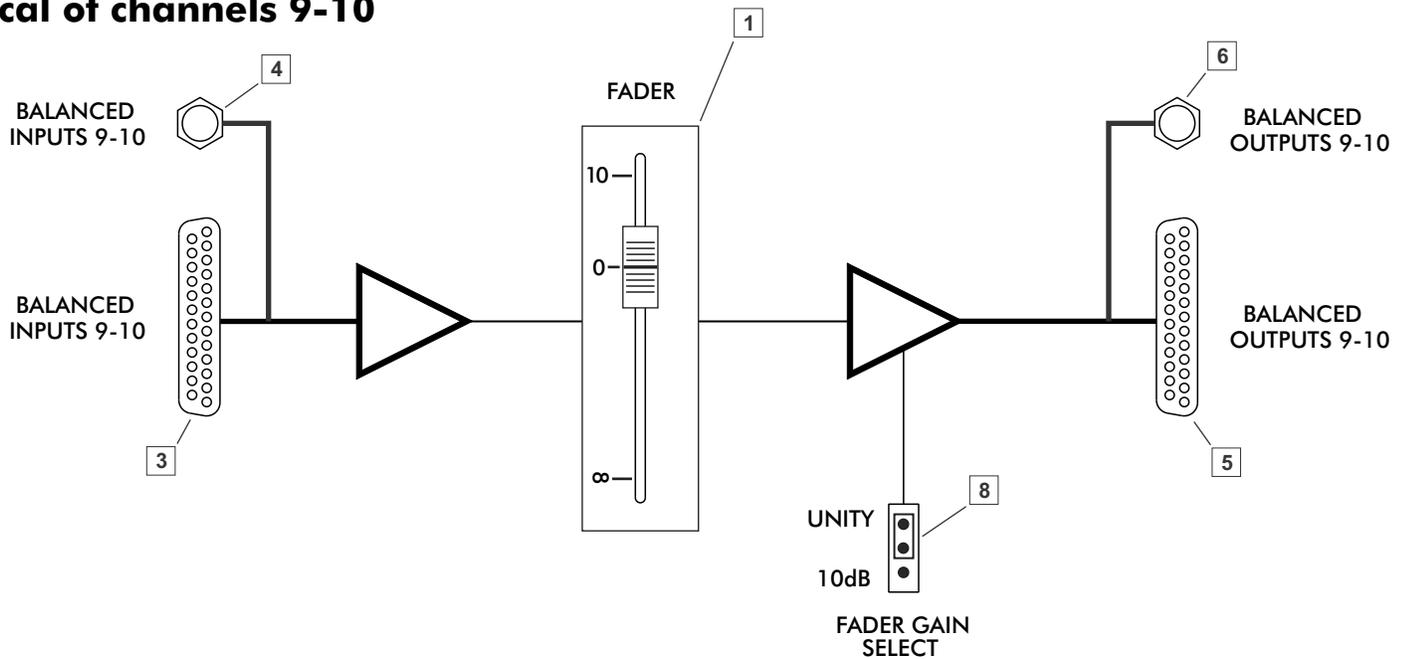
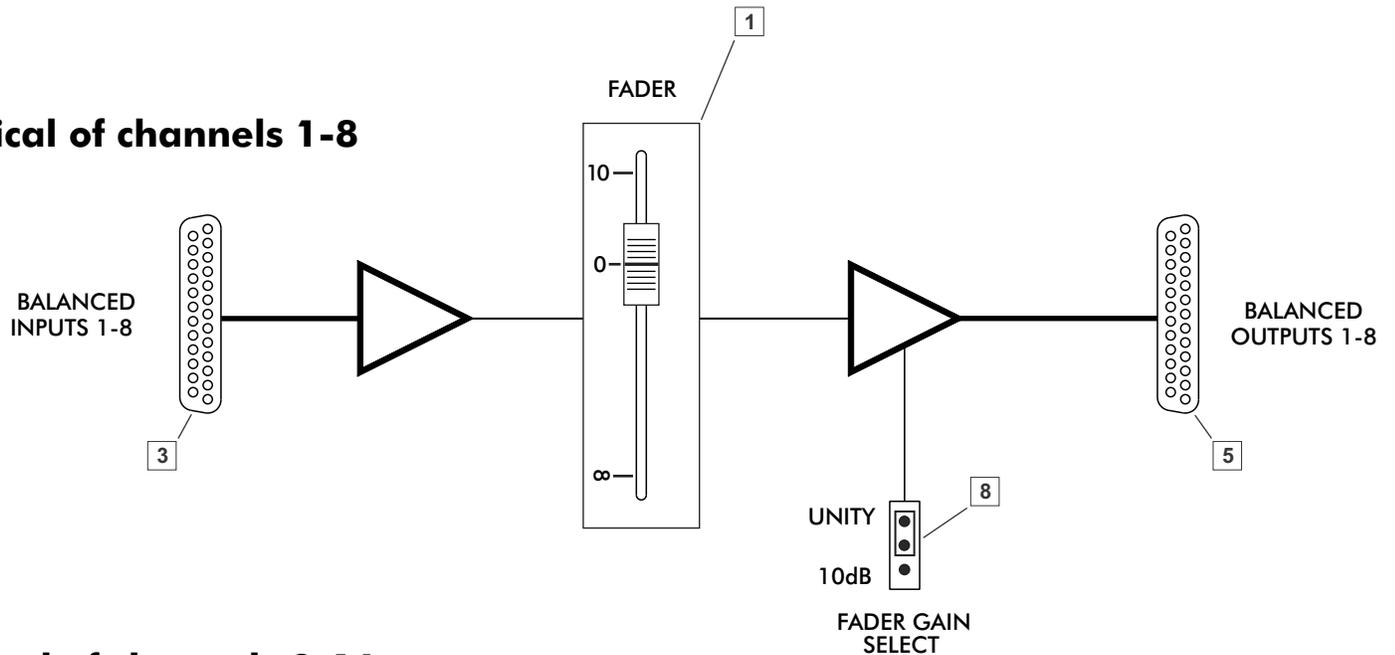


Figure 1. via Fader VF10 signal flow and reference designations.

Signal Flow Diagram For Model VF16

Use this channel signal flow diagram shown below as a reference when reading the descriptions of the controls and connectors [1] through [8] in this chapter.

Typical of channels 1-8



Typical of channels 9-16

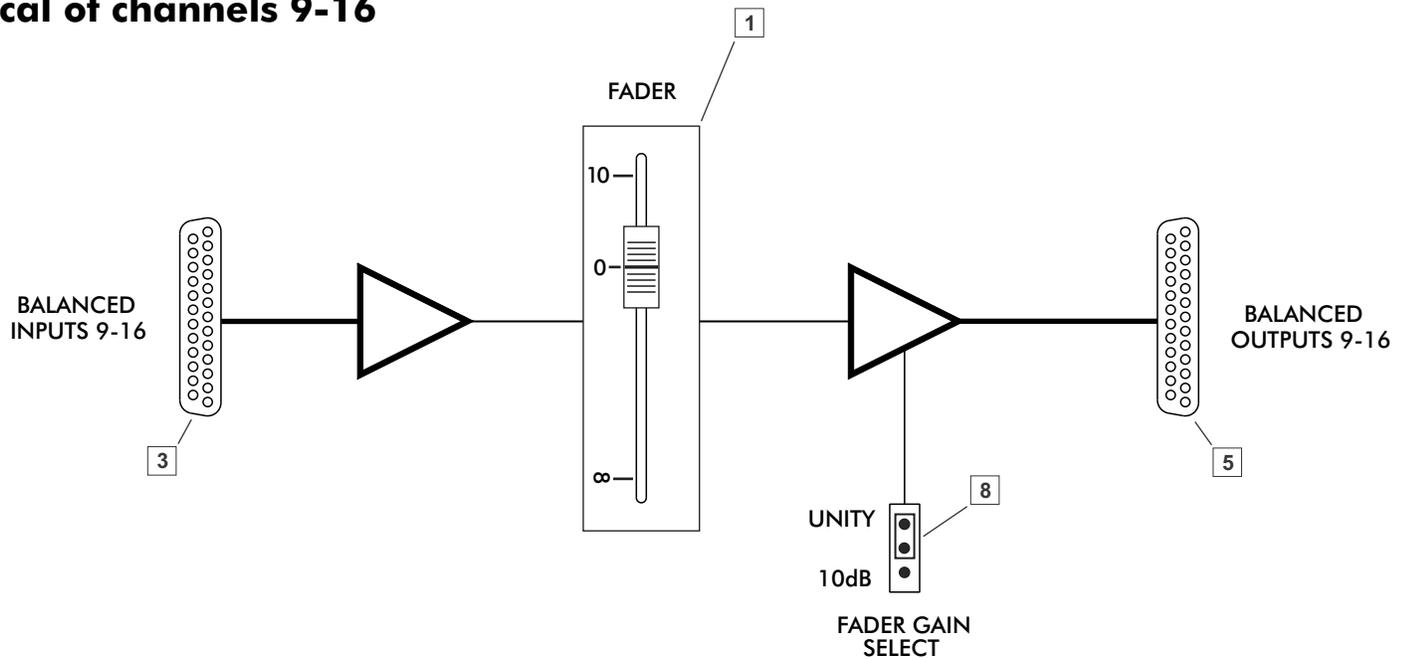


Figure 2. via Fader VF16 signal flow and reference designations.

FRONT PANEL

1. Channel Fader

This 100mm slide fader adjusts the level of its respective channel and has a range of ∞ dB to 10dB. The operation of the slide fader adjusts the level to the fader line output. The “0” mark is the "unity gain" setting for the fader channel.

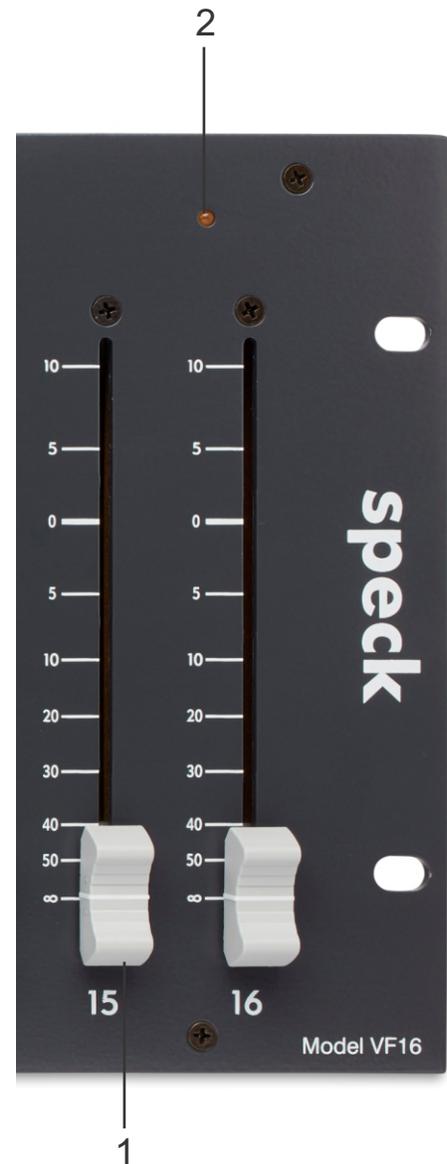
Fader In to Fader Out Gain

With a balanced +4dBu signal present at a DB-25 line input and its respective fader set to the “0” mark, the corresponding balanced DB-25 line output will be +4dBu.

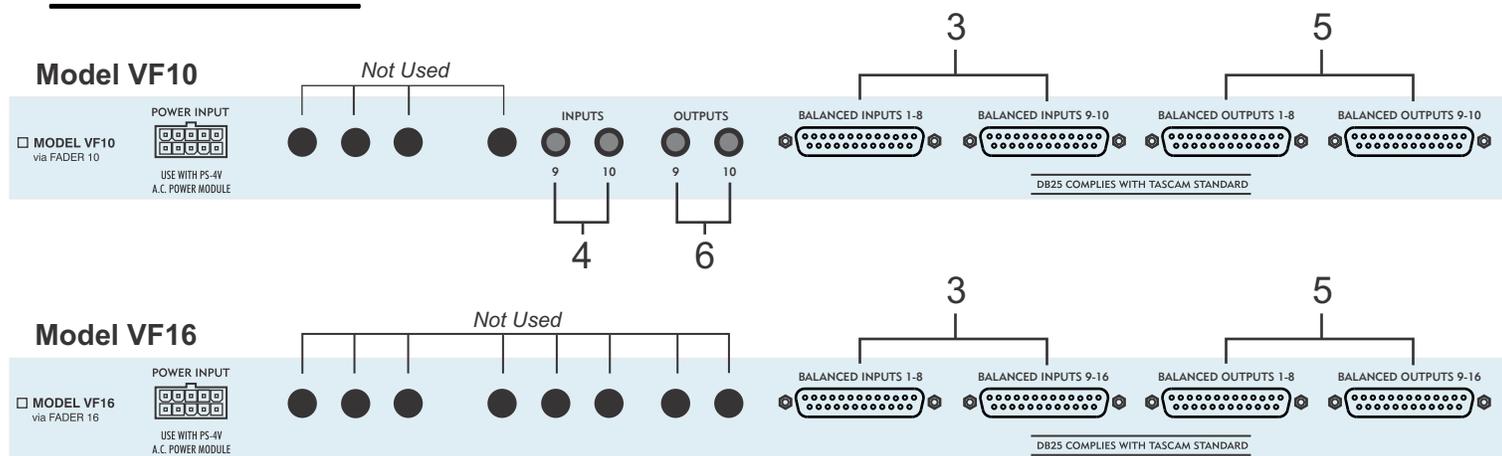
With the Gain Select [8] set for 10dB and the slide fader set at the “10” mark this will give the channel a total of 20dB of gain.

2. Power LED

This LED will illuminate orange when the power is applied to the via Fader.



REAR PANEL



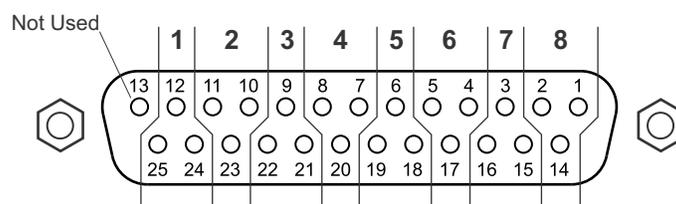
3. DB-25 Line inputs

There are two DB-25 connectors for the fader line inputs. These balanced inputs will accept a +4dBu reference signal.

On the **VF10** the two DB-25 connectors are inputs 1-8 and 9 and 10. Inputs 11-16 not used on the Model VF10.

On the **VF16** the two DB-25 connectors are inputs 1-8 and 9-16.

The DB-25 connectors conform to the Tascam standard pin layout



Channel	High	Low	Gnd
1	24	12	25
2	10	23	11
3	21	9	22
4	7	20	8
5	18	6	19
6	4	17	5
7	15	3	16
8	1	14	2

Figure 3

4. 1/4" TRS Line inputs (VF10 only)

The DB-25 fader inputs 9 and 10 are duplicated on the Model VF10 with 1/4" TRS balanced jacks. These inputs are internally wired in parallel and identical in every aspect except for the connector. The 1/4" TRS and DB-25 inputs **should not** be used at the same time.

5. DB-25 Line outputs

There are two DB-25 connectors for the fader line outputs. With a balanced +4dBu signal present at the DB-25 line input and the slide fader set to the "0" mark, the balanced DB-25 line output will be +4dBu.

On the **VF10** the two DB-25 connectors are outputs 1-8 and 9 and 10. Outputs 11-16 not used on the Model VF10.

On the **VF16** the two DB-25 connectors are outputs 1-8 and 9-16.

6. 1/4" TRS Line outputs (VF10 only)

The DB-25 fader outputs 9 and 10 are duplicated on the Model VF10 with 1/4" TRS balanced jacks. These outputs are internally wired in parallel and identical in every aspect except for the connector. The 1/4" TRS and DB-25 **may** be used at the same time.

HIGH	TIP
LOW	RING
GROUND	SLEEVE

Pin configuration for all 1/4" TRS jacks



7

7. Power Inlet

The cable from the power module connects to this 10 pin rectangular connector. This connector and its respective plug are keyed so they will only fit in one direction. For power module installation instructions, refer to the Installation Section in this manual.

The connector illustration is shown in Figure 4. 16VAC from the external power module is connected between pin 7 and pin 9.

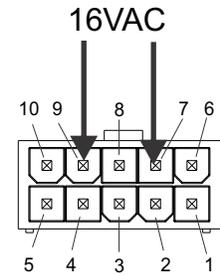


Figure 4

8. Gain Select

Each channel has a gain select jumper directly below the fader on the bottom panel (See Figure 5). The factory default setting is for 0dB of gain. 10dB of gain can be added to the channel by moving the position of the jumper. With the gain select set for 10dB and the slide fader set at the “10” mark this will give the channel a total of 20dB of gain.

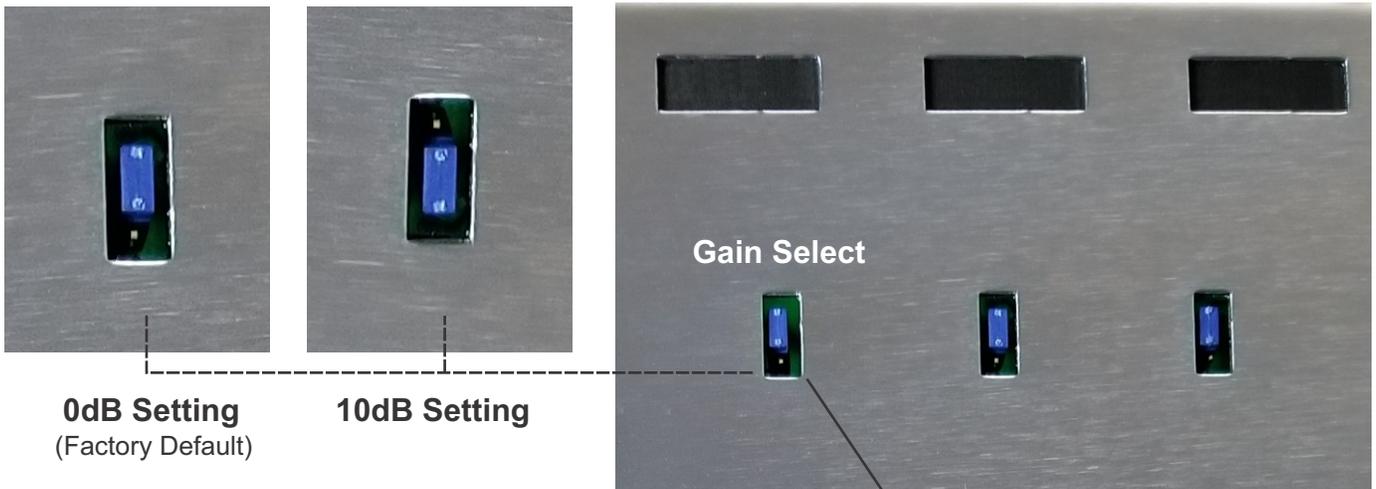


Figure 5.

8

Specifications

Line input impedance	
Balanced	30K ohms
Unbalanced	15K ohms
Maximum input level	+28dBu
Output Impedance	
All Active-balanced outputs	60 ohms
Maximum output level (2k load)	
All Active-balanced outputs	+28dBu (Balanced)
Frequency Response (10 dB gain)	
Fader input to fader output	3Hz-54kHz (+0/- .5dB)
THD+n	
+12dBu any fader input, fader set at "0" mark, +12dBu fader out	.0024%
Crosstalk (1kHz)	
Channel to channel	-102dBu
Noise (22Hz-22kHz)	
Fader Line Output	-96dBu
AC Power Requirements (Power Module)	
	100-120VAC 50/60Hz .5 amp
	220-240VAC 50/60Hz .25 Amp
Dimensions (Mixer)	
	WxDxH=19" x 7" x 6"
	(483mm x 178mm x 158mm)
Weight (Mixer)	11 Lbs (5kg)
Total shipping weight	14 Lbs (6.3kg)