

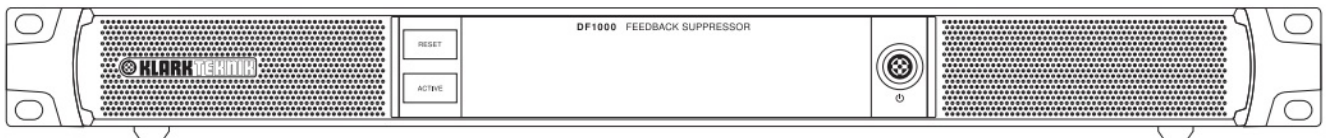


KLARK TEKNIK DF1000 Ultra-Fast and Fully Automatic Dual-Channel Feedback Suppression Processor User Guide

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KLARK TEKNIK

Quick Start Guide



DF1000 Ultra-Fast and Fully Automatic Dual-Channel Feedback Suppression Processor V 4.0

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Important Safety Instructions



Terminals marked with this symbol carry an electrical current of sufficient magnitude to constitute a risk of electric shock. Use only high-quality professional speaker cables with ¼" TS or twist-locking plugs pre-installed. All other installation or modification should be performed only by qualified personnel.



This symbol, wherever it appears, alerts you to the presence of uninsulated dangerous voltage inside the enclosure – voltage that may be sufficient to constitute a risk of shock.



This symbol, wherever it appears, alerts you to important operating and maintenance instructions in the accompanying literature. Please read the manual.



Caution To reduce the risk of electric shock, do not remove the top cover (or the rear section). No user-serviceable parts inside. Refer servicing to qualified personnel.



Caution To reduce the risk of fire or electric shock, do not expose this appliance to rain and moisture. The apparatus shall not be exposed to dripping or splashing liquids and no objects filled with liquids, such as vases, shall be placed on the apparatus.



Caution These service instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operation instructions. Repairs have to be performed by qualified service personnel.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for the replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Use only attachments/accessories specified by the manufacturer.



12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with

the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. The apparatus shall be connected to a MAINS socket outlet with a protective earthing connection.
16. Where the MAINS plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.
17. Correct disposal of this product: This symbol indicates that this product must not be disposed of with household waste, according to the WEEE Directive (2012/19/EU) and your national law. This product should be taken to a collection center licensed for the recycling of waste electrical and electronic equipment (EEE). The mishandling of this type of waste could have a possible negative impact on the environment and human health due to potentially hazardous substances that are generally associated with EEE. At the same time, your cooperation in the correct disposal of this product will contribute to the efficient use of natural resources. For more information about where you can take your waste equipment for recycling, please contact your local city office or your household waste collection service.
18. Do not install in a confined space, such as a bookcase or similar unit.
19. Do not place naked flame sources, such as lighted candles, on the apparatus.
20. Please keep the environmental aspects of battery disposal in mind. Batteries must be disposed of at a battery collection point.
21. This apparatus may be used in tropical and moderate climates up to 45°C.

LEGAL DISCLAIMER

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LIMITED WARRANTY

For the applicable warranty terms and conditions and additional information regarding Music Tribe's Limited Warranty, please see complete details online at musictribe.com/warranty.

Introduction

Welcome!

Thank you for purchasing the DF1000 Dual-Channel Feedback Suppression Processor.

Features

Dual-channel feedback suppression processor designed for fully automatic and zero-configuration setup

- Offers up to 10dB increase in system gain

- Instantly detects and stops acoustic feedback. Highly effective with both speech and music
- Ultra-fast and highly accurate DSP selects and applies up to 32 filters per channel
- Two fully independent audio channels to process stereo or separate zone signals
- Extreme!) narrow filters (up to 1/30th octave) to retain overall signal integrity
- Front panel control featuring suppression and filter reset buttons
- Two balanced/unbalanced inputs on combination line-level XLR/TRS and 3-pin Euroblock connectors
- Auto-ranging universal switch-mode power supply
- Designed and engineered in England

About this Quick Start Guide

This is the QuickStart Guide for the DF1000 Dual-Channel Feedback Suppression Processor. This QuickStart Guide is intended to help get your unit installed and in operation as quickly as possible by giving you unpacking, installation, connection, setting up, and operating instructions. To help familiarise you with the DF1000, there is a description of the front and rear panels, along with easy-to-follow user instructions.

Getting Started

This section shows you how to unpack, install, connect up, switch on and configure the DF1000 Dual-Channel Feedback Suppression Processor.



This equipment is supplied by a mains voltage that can cause electric shock injury. Before installing, setting up or operating this equipment, make sure that you have read and fully understand all of this section and the

“Important safety instructions” at the front of this document.

Unpacking

Carefully unpack your DF1000 unit. Then, inspect the DF1000 unit carefully for any signs of damage that may have occurred during transit, and then notify the courier immediately if you do discover any damage.

Check the contents of your DF1000 unit equipment package. If there are any parts missing, incorrect or faulty, please contact your local distributor or Klark Teknik at the address at the front of this Quick Start Guide.

Please retain the original packing in case you should need to return the equipment to the manufacturer or supplier, or transport or ship the unit later.

Installation

Before installing and operating this equipment, make sure it is correctly connected to the protective earth conductor of the mains voltage supply socket outlet through each mains lead.

Ideally, a cool area is preferred, away from power distribution equipment or other potential sources of interference.

Do not install the equipment in places of poor ventilation.

Do not install this equipment in a location subjected to excessive heat, dust or mechanical vibration. Allow for adequate ventilation around the equipment, making sure that its fans and vents are not obstructed. Whenever possible, keep the equipment out of direct sunlight.

Mount in rack only.

Power

The internal power supply is of the switch-mode type that automatically senses the incoming mains voltage and will work where the nominal voltage is in the range of 100 VAC to 240 VAC.

The correct leads for connection in the area to which the unit was shipped are supplied with the unit. The equipment should only be plugged into the main outlets using the supplied leads.

Make sure the plug fitted on the supplied mains cable is securely fitted to the mains IEC connector on the unit. When fitting or removing a plug, always hold the plug itself and never pull on the cable, as this may damage the cable. Never insert or remove an electric plug with wet hands.

Handling the equipment

When lifting or moving the equipment always take its size and weight into consideration. Completely isolate the equipment electrically and disconnect all cables from the equipment before moving it.

Electric fields

In accordance with Part 15 of the FCC Rules & Regulations, "... changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment."

Should this product be used in an electromagnetic field that is amplitude modulated by an audio frequency signal (20 Hz to 20 kHz), the signal to noise ratio may be degraded. Degradation of up to 60 dB at a frequency corresponding to the modulation signal may be experienced under extreme conditions (3 V/m, 90% modulation).

Connecting up

The DF1000 unit uses the following leads and connectors:

Primary Analogue Inputs:

Line Inputs – Balanced XLR/T RS combination jacks and Euroblock connectors -20 K load

Primary Analogue Outputs:

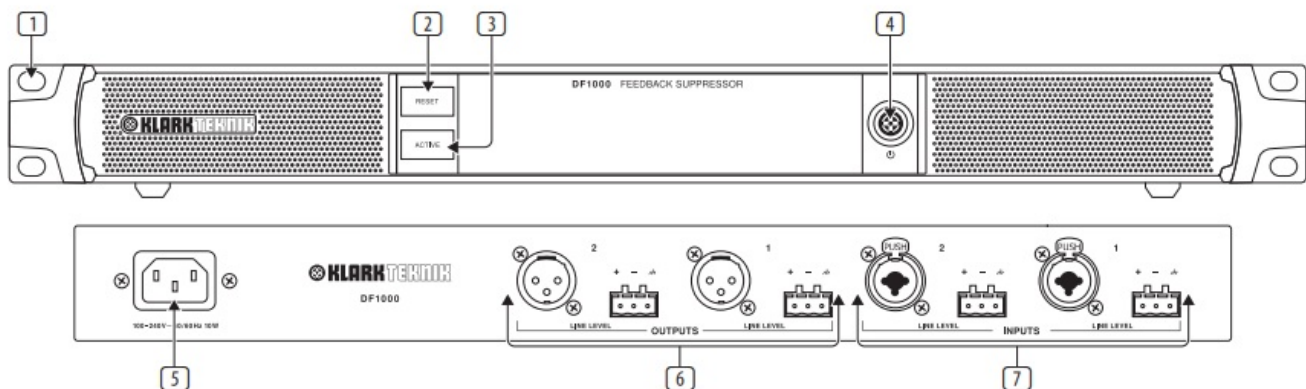
Line-level Outputs- Balanced XLR and Euroblock connectors-50 R source

Power Connections:

IEC mains inlet — 100-240 VAC—50-60 Hz

For further information about the connectors used in conjunction with the DF1000 unit, see Section 5. Connectors.

Front and Back Panel



Front Panel

- (1) RACK EARS for rackmount installation
- (2) RESET switch resets the filters and clears the memory. A white LED will flash during the reset process.
- (3) ACTIVE switch toggles between active and bypass modes. Inactive mode, the automatic filters are engaged. In bypass mode, the filters are bypassed and the signal will pass through the unit unaltered. If the DF1000 is powered off, the unaltered signal will pass through (hard bypass).
- (4) POWER SWITCH turns the unit on and off. The embedded power LED lights up when the unit is powered on.

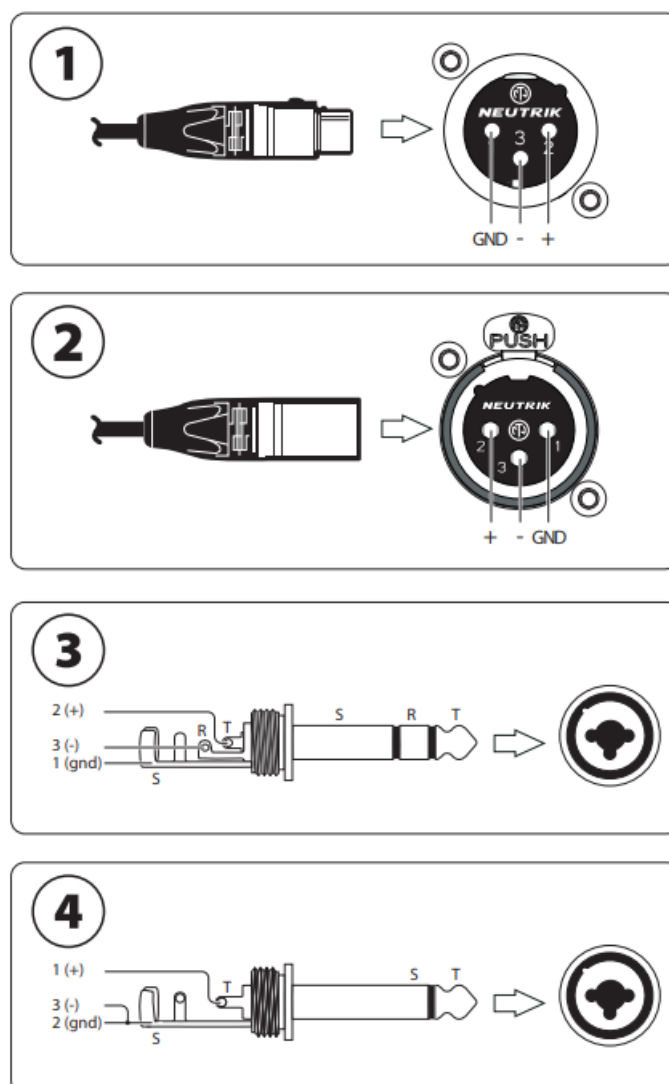
Back Panel

- (5) POWER SO
- (6) OUTPUTS s drive balanced (
- (7) INPUTS sec parallel and will

Connectors

To ensure the correct and reliable operation of the equipment, only high-quality balanced, screened, twisted-pair audio cables should be used. XLR connector shells should be of metal construction so that they provide a screen when connected and, where appropriate, they should have Pin 1 connected to the cable screen.

XLR Connectors

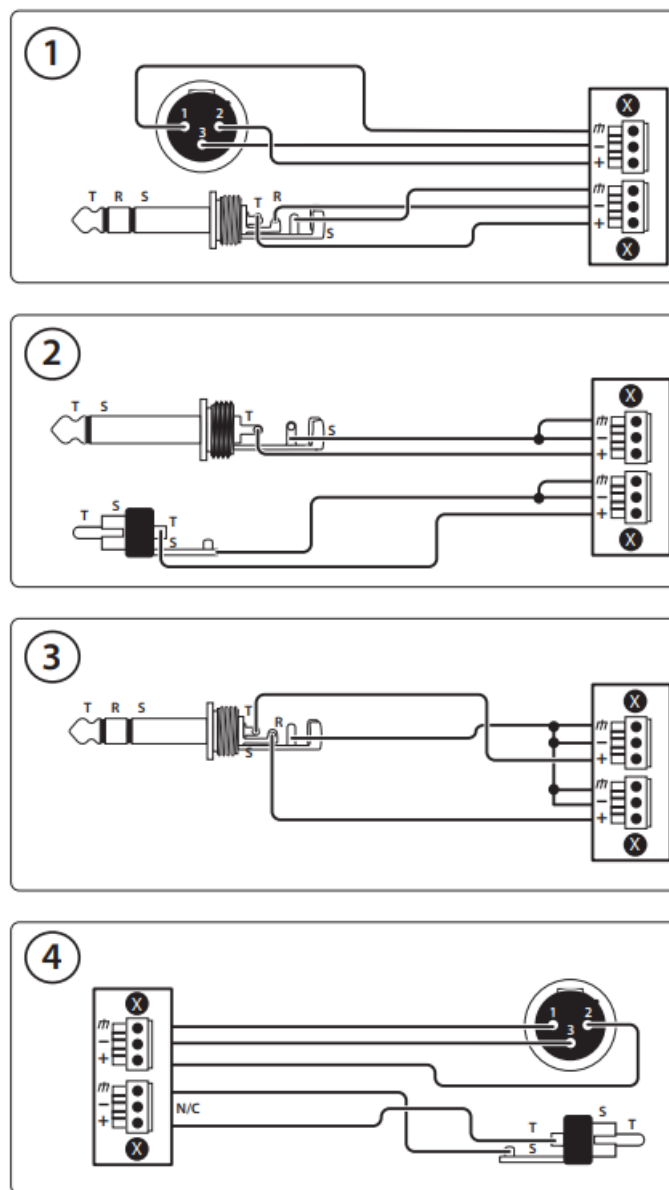


1. Balanced line output audio connector. Female XLR plug and male XLR chassis connector with the following pinouts: 1 = ground; 2 = hot (+); and 3 = cold (-).
2. Balanced line input audio connector. Male XLR plug and female XLR chassis connector with the following pinouts: 1 = ground; 2 = hot (+); and 3 = cold (-). Balanced line input audio connector. Male TRS plug to female combo XLR/1/4" TRS chassis connector with the following pinouts: 1/Sleeve = ground; 2/Tip = hot (+); and 3/Ring = cold (-).
3. Unbalanced line input audio connector. Male TS plug to female combo XLR/1/4" TRS chassis connector with the following pinouts: 2, 3/Sleeve = ground/cold (-); and 1/Tip = hot (+).

Euroblock Connectors

DF1000 also uses Euroblock connectors for all analog audio connections.

The following graphics offer guidance for correctly wiring common audio connectors (XLR, 1/4", RCA) to the Euroblock connections.



1. Balanced inputs. Male XLR and male 1/4" TRS connectors to Euroblock with the following pinouts: 1/Sleeve = ground; 2/Tip = hot (+); and 3/Ring = cold (-).
2. Unbalanced inputs. Male 1/4" TS and RCA connectors to Euroblock with the following pinouts: Sleeve = ground/cold (-); and Tip = hot (+).

3. Unbalanced stereo to dual balanced inputs. Male 1/4" TRS connectors to Euroblock with the following pinouts:
Sleeve = ground/cold (-); and Tip = hot (+).
4. Balanced and unbalanced outputs. Euroblock to female XLR (balanced) and male RCA (unbalanced) with the following pinouts:
XLR: 1 = ground; 2 = hot (+); and 3 = cold (-).
RCA: Sleeve = ground; Tip = hot (+).

Operation

Initial Setup

For a basic first setup with the DF1000 in your sound system, use the following procedure:

1. Make all appropriate audio and power connections to the DF1000.
2. Power up the sound system's preamp or mixer.
3. Power up the DF1000.
4. Power up the sound system's power amplifier.
5. With the ACTIVE button set to bypass mode, set the sound system's gain for normal system operation.
6. Press the ACTIVE button to set the unit to active mode.
7. Press the RESET button to clear the memory and reset the filters.
8. The DF1000 is now ready for operation and will automatically find problem frequencies and attenuate those frequencies to eliminate feedback.

Bypass Mode

Bypass mode allows you to quickly pull the DF1000 out of the signal path. To use bypass mode, take the following steps:

1. Press the ACTIVE button to engage bypass mode.
2. Switch between active and bypass modes to hear a comparison between the system's operation with and without feedback suppression.

Filter Reset

Over time, all of the 32 individual filters per channel may be assigned to problem frequencies. If an additional problem frequency is then detected, the DF1000 will automatically re-assign the first filter to the new problem frequency. It may also be necessary to reset the unit in order to restore the sound system's tonal balance and frequency response.

1. Before resetting the unit, reduce the system gain and ensure that all microphones are off.
2. Press the RESET button.
3. The white background LED will flash to indicate the filters have been reset and the memory is cleared of all settings.
4. Slowly increase the gain of each microphone to the proper operating level.
5. The DF1000 will automatically detect and suppress any problem frequencies.

Specifications

Audio Inputs

Connections	2 x XLR / TRS combo 2 x 3-pin Euroblock
Input impedance	appr. 20 k Ω
Normal input level	+4 dBu
Max. input level	+21 dBu

Audio Outputs

Connections	2 x XLR 2 x 3-pin Euroblock
Output impedance	appr. 50 Ω
Normal output level	+4 dBu
Max. output level	+21 dBu

System Information

Controls	Power on / off Suppression (momentary) Filter reset (momentary)
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Indicators	Power Active Reset
Frequency response	20 Hz to 20 kHz,+0/-0.5 dB
Dynamic range	104 dB
THD+N	< 0.01 % @ 20 Hz to 20 kHz, +4 dBu In
Crosstalk	< -81 dB
S/N ratio	>88 dB @ +4 dBu In
CMRR	>45 dB
Processor system gain	0 dB
Additional acoustic gain	10 dB
Digital Signal Processing (DSP)	
Converters	24-bit
Sample rate	48 kHz
Feedback Suppressor (FBQ)	
Feedback reduction method	Automatically detect and apply a notch filter

Filters	32 independent digital notch filters per channel
Filters width	min. 1/126th octave, max. 1/38th octave
Resolution	0.2 Hz
Time required to find one feedback mode	100 – 400 msec
Time required to find multiple feedback modes	2 – 4 sec
Power Supply	
Type	Auto-switching power supply
Mains voltage (all regions)	100 – 240 VAC, 50/60 Hz
Fuse	T 1.25 A H 250 V
Power consumption	10 W
Mains connector	Standard IEC receptacle
Dimensions/Weight	
Dimensions (H x W x D)	50 x 483 x 296 mm (XU) (2.0 x 19.0 x 11.6")
Weight	2.9 kg (6.4 lbs)

Temperature Range	
Operation	+0° C to +45° C
Storage	-20° C to +60° C

Due to a policy of continual improvement, Klark Teknik reserves the right to alter the function or specification at any time without notice.


Other important information

Important information



1. **Register online.** Please register your new Music Tribe equipment right after you purchase it by visiting musictribe.com. Registering your purchase using our simple online form helps us to process your repair claims more quickly and efficiently. Also, read the terms and conditions of our warranty, if applicable.
2. **Malfunction.** Should your Music Tribe Authorized Reseller not be located in your vicinity, you may contact the Music Tribe Authorized Fulfiller for your country is listed under “Support” at musictribe.com. Should your country not be listed, please check if you’re the problem can be dealt with by our “Online Support” which may also be found under “Support” at musictribe.com. Alternatively, please submit an online warranty claim at musictribe.com BEFORE returning the product.
3. **Power Connections.** Before plugging the unit into a power socket, please make sure you are using the correct mains voltage for your particular model. Faulty fuses must be replaced with fuses of the same type and rating without exception.

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Documents / Resources

	<p>KLARK TEKNIK DF1000 Ultra-Fast and Fully Automatic Dual-Channel Feedback Suppression Processor [pdf] User Guide</p> <p>DF1000, Ultra-Fast and Fully Automatic Dual-Channel Feedback Suppression Processor</p>
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References

-  [Music Tribe](#)
-  [Music Tribe](#)