

USER MANUAL

Published February 2025



ZAXCOM.COM

MicPlexer 3

Filtered Distribution

KNOWING YOUR MICPLEXER 3	3
OVERVIEW	3
TECHNOLOGY	3
OPERATING RANGE	3
TUNING WINDOW	3
TUNING ACCURACY	3
RF AMPLIFICATION.....	3
RF DISTRIBUTION.....	3
OVERLOAD INDICATOR	3
FRONT PANEL	4
REAR PANEL.....	5
OPERATIONS	6
SUPPLYING POWER	6
CONNECTING INPUT ANTENNAS.....	6
CONNECTING OUTPUT ANTENNAS.....	6
MAIN MENU.....	6
RF METERING.....	6
OVERLOAD INDICATOR	6
BANDPASS SELECTION MENU	7
Setting the Variable filter.....	7
Selecting Preset Filter Values	7
RF GAIN LO MENU	7
RF GAIN HI MENU	7
LOCK SCREEN	8
SELECTING CHANNEL PRESETS	8
FIRMWARE UPDATES	9
UPDATING FIRMWARE.....	9
SPECIFICATIONS	10
PRODUCT SUPPORT	11
ZAXCOM WARRANTY POLICY AND LIMITATIONS.....	12

Knowing your MicPlexer 3

Overview

MicPlexer 3 is a RF filter and amplifier offering enhanced frequency coverage, a 50 MHz tuning window, continuous 2 MHz step tuning, variable output level control, and RF overload protection.

Technology

MicPlexer 3 features a completely overhauled bandpass filter that's continuously tunable, providing excellent RF rejection while preventing RF overload from walkie-talkies and mobile devices that can cause intermodulation in the distribution amplifier, ruining the performance of a connected receiver.

Operating Range

MicPlexer 3 has an operating range from 470-665 MHz and 745-965 MHz. Not included is 666-744 MHz as a portion of this spectrum is licensed for mobile device use only.

Tuning Window

MicPlexer 3 features a continuously adjustable 50 MHz tuning window. The steep attenuation offers flexibility in frequency selection, preventing interference and overloading from unwanted signals.

For example, with the device tuned to 550 MHz, RF between 525-575 MHz will pass through. RF outside that range will be filtered out.

Tuning Accuracy

MicPlexer 3 is continuously tunable in 2 MHz frequency steps, providing robust accuracy and customization over distribution products with SAW filters. The sharp bandpass rejection and adjustable tuning makes it preferable over devices with fixed high-pass filters.

RF Amplification

MicPlexer 3 has an excellent amplifier, with a noise figure of .35 dB and an OIP3 of +34 dB. The device can handle any high-RF environment, adding protection from its high-Q RF filtering.

SMA antennas are used on both inputs, making it simple to bypass the MicPlexer 3.

RF Distribution

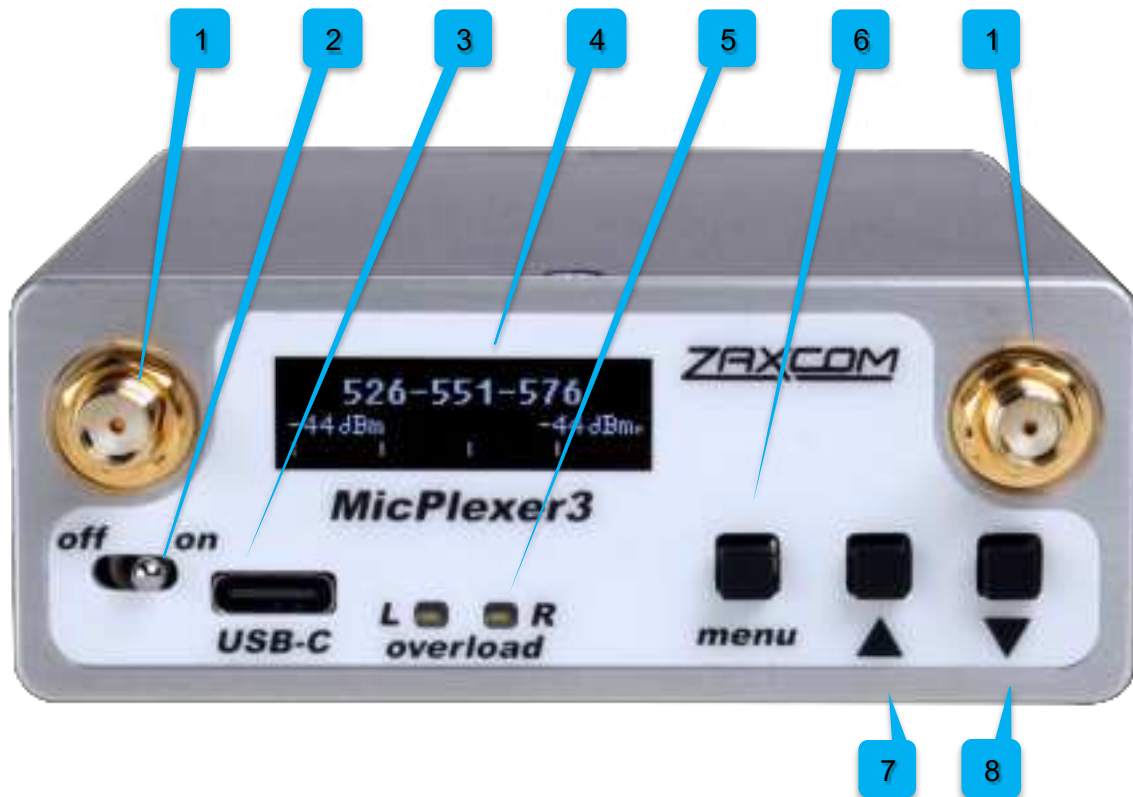
MicPlexer 3 supports two amplification channels with four outputs. Outputs are user-adjustable.

- Operating between 470-665 MHz is selectable from -10 dB to +6 dB relative to the input signal.
- Operating between 745-965 MHz is selectable from -10 dB to +3 dB relative to the input signal.

Overload Indicator

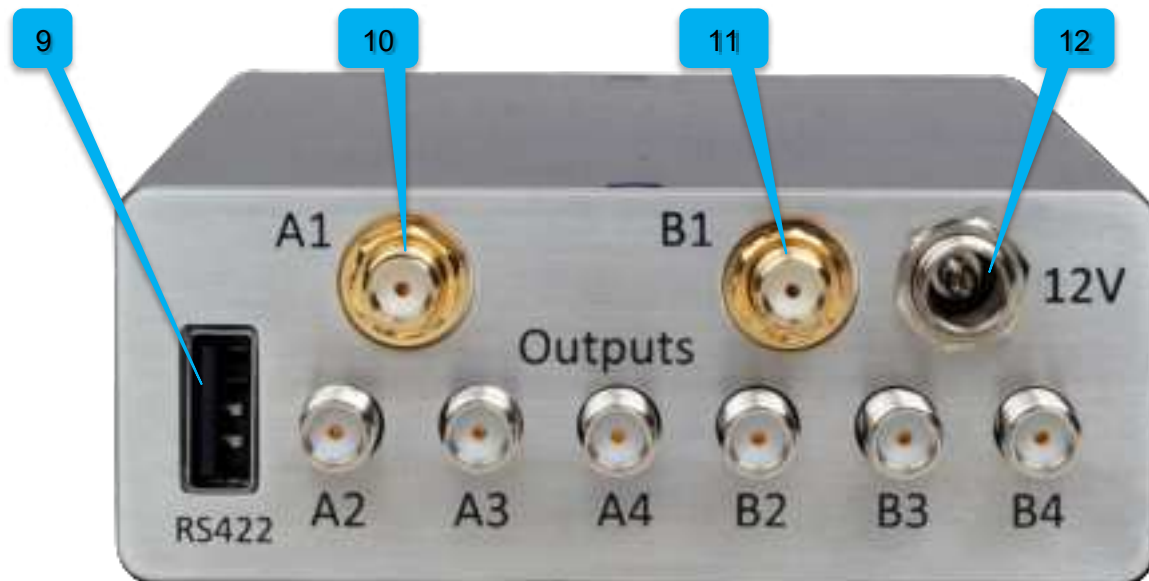
MicPlexer 3 has an overload LED indicator for each antenna input. If the unit determines the receiving RF signal is too strong the LED will indicate an overload condition.

Front Panel



1. **SMA Antenna Input Connections (2x)** – use only 50 Ohm Connectors
2. **Power Switch**
3. **USB-C Connector (updating software)**
4. **OLED Screen**
5. **Overload Indicators**
6. **Menu Button**
 - Press to access the menu and to advance to the next menu item
7. **INC Button**
 - Increases the parameters of a menu item
 - When in the Home screen: Press and hold will access the Preset Menu
8. **DEC Button**
 - Decreases the parameters of a menu item
 - When in the Home screen: Press and hold will access the Preset Menu

Rear Panel



- 9. **RS422 Connection** – for future connectivity
- 10. **Antenna A Outputs (4) SMA** – use only 50 Ohm connectors
- 11. **Antenna B Outputs (4) SMA** – use only 50 Ohm connectors
- 12. **Power Connection** – Switchcraft 761K

Operations

Supplying Power

MicPlexer 3 uses a Switchcraft 761K locking connector to supply power. The device can accept 10-18 volts DC. The center pin is wired positive and the ring is negative.



Connecting Input Antennas

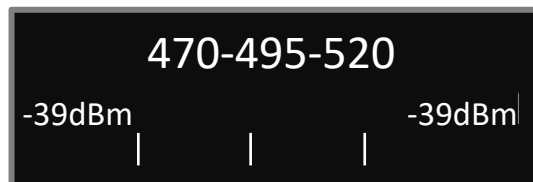
MicPlexer 3 receives a signal via the two SMA connectors on the front of the device. To ensure optimal performance use a 50 Ohm low-loss coax cable with 50 Ohm connectors. Keep the cable run as short as possible. You can connect any proper UHF antenna to MicPlexer 3.

Connecting Output Antennas

MicPlexer 3 has 8 SMA connections on the rear of the device.

- Antenna 1: 4x SMA connections (A1, A2, A3, A4)
- Antenna 2: 4x SMA connections (B1, B2, B3, B4)

The silver and gold connectors work identically. To ensure optimal performance use a 50 Ohm low-loss coax cable with 50 Ohm SMA connectors. Keep the cable as short as possible.



Main Menu

MicPlexer 3 uses dual-filtering on each antenna input to provide a user-adjustable 50 MHz wide bandpass from 460-965 MHz as its upper and lower boundaries. The main menu displays the currently selected filter parameters and metering for the RF inputs.

RF Metering

MicPlexer 3 has dual RF meters displaying the signal strength received at the antenna.

Overload Indicator

MicPlexer 3 has an overload LED for each antenna input, designed to alert you when the RF signal is too strong. If the signal from transmitters or other sources (e.g., walkie-talkies, mobile devices) overloads the RF amp, it can cause reduced sensitivity and intermodulation interference, affecting receiver performance.

Ideally, no LEDs should be lit. If one lights up, move away from the RF source to clear the signal. If the bar graph meter on the OLED approaches -20 dB, reduce the incoming RF. If the overload LED lights up and the signal exceeds 0 dB, the MicPlexer 3 is overloaded—move antennas away or change frequency blocks.

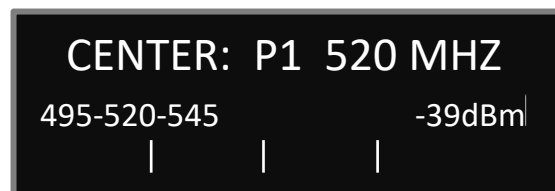


Bandpass Selection Menu

MicPlexer 3 has two user-adjustable filter banks for each input. The filters allow you to custom set the center of the 50 MHz tuning window within a lower band 470-665 MHz or upper band 745-965 MHz.

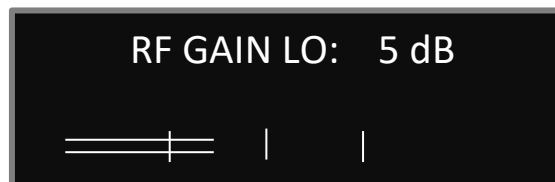
Setting the Variable filter

The bandpass is selected by pressing the INC or DEC buttons until the desired frequency window has been selected.



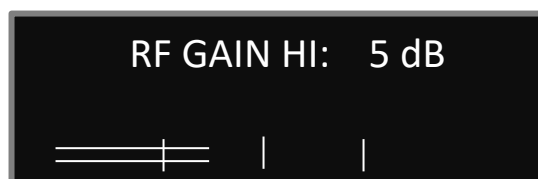
Selecting Preset Filter Values

Programmed preset settings are selected by pressing the DEC button when the filter is at its lowest setting, below 495 MHz.



RF Gain Lo Menu

The RF Gain Lo menu allows users to adjust the output gain when the filter is in its lower band setting 470-665 MHz. This configuration's output gain is selectable from -10 dB to +6 dB in 1 dB increments.



RF Gain Hi Menu

The RF Gain Hi menu allows users to adjust the output gain when the filter is in its higher band setting 745-965 MHz. This configuration's output gain is selectable from -10 dB to +3 dB in 1 dB increments.



Countdown clock starts at 5 seconds

Lock Screen

This page enables a key lock function to disable parameter changes. When the lock page is landed on, a countdown clock will begin. After 5 seconds the device will lock and display LOCKED. If this screen is exited before 5 seconds, the transmitter will not lock.

To Lock

- Press and hold the DEC button to lock the transmitter before the 5 seconds.
- Pressing the DEC button will display the currently selected center frequency.

To Unlock

- Press and hold the Menu button, then press the INC button 5 times.
- or
- Power down and reboot the device.

A screenshot of a black rectangular screen. The text 'CHANNEL PRESETS:' is displayed in white at the top. Below it, the text 'PRESET 0: 500' is displayed in white.

Selecting Channel Presets

MicPlexer 3 can store up to 9 preset bandpass settings. The Frequency Presets can be accessed from the main menu.

- Press the DEC button three times in the Main Menu to access the Submenus.
- Press up and down to select to toggle the Submenu and select the Preset Menu.
- When the Preset Menu is selected, press the Menu button again to enter the Preset Menu.
- Up to 9 preset bandpass selections can be programmed. Press the Menu button to highlight the preset or center frequency fields.
- To exit the Preset Menu, press and hold the Menu button. To return to the main menu, cycle through the sub-menu items until Main Menu is displayed. Then press the Menu button.
- You can also cycle the power to return to the Main Menu.

Firmware Updates

MicPlexer 3 ships with the latest firmware version installed. As newer firmware becomes available, it can be downloaded from the Zaxcom website:

- <http://www.zaxcom.com/software-updates>

Newer versions of beta firmware may be found on the Zaxcom forums:

- <http://www.zaxcom.com/forums>

Updating Firmware

1. Download the latest firmware on your computer.
2. Connect your computer to the MicPlexer 3 via the MicPlexer 3's USB-C port.
3. Power on the MicPlexer 3.
4. Press and hold the INC and DEC buttons within four seconds of bootup. MicPlexer 3's screen will go blank and the device will appear as a drive on your computer's directory.
5. Copy the .uf2 file to the drive. After a few seconds, the MicPlexer 3 will reboot with the new firmware.
6. Upon completion, confirm the device is running the latest firmware.

Specifications

RF

Frequency Tuning Range: 470-665 MHz and 745-965 MHz

Tuned Pass Band: 50 MHz

Tuning resolution: 2 MHz

RF Gain 470-665 MHz: -10 to +6 dB, user-adjustable

RF Gain 745-965 MHz: -10 to +3 dB, user-adjustable

RF Channels: 2

Channel Cross-talk: Less than 55 dB

Amplifier Noise Figure: .35 dB

OIP3 Distortion: +34 dB

Maximum RF input: 0 dB

Physical

RF Connectors: SMA

Power Connector: 761k Switchcraft

Power Requirement: 10-18 VDC @ 50mA

Size: 1.25" x 3.25" x 4.75"

Weight:

Display: OLED

USBC port: for software updates

RS422 port: for future use

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Product Support

Product Registration:	http://www.zaxcom.com/product-registration
Download Firmware:	http://www.zaxcom.com/software-updates
Download User Manuals:	http://www.zaxcom.com/instruction-manuals
Submit Technical Questions:	http://www.zaxcom.com/submit-a-technical-question
Repair Services:	http://www.zaxcom.com/repairs
Zaxcom Forum:	http://www.zaxcom.com/forum

Zaxcom Warranty Policy and Limitations

Zaxcom Inc. values your business and always attempts to provide you with the very best service.

No limited warranty is provided by Zaxcom unless your MicPlexer2 ("Product") was purchased from an authorized distributor or authorized reseller. Distributors may sell Product to resellers who then sell Product to end users. Please see below for warranty information or obtaining service. No warranty service is provided unless the Product is returned to Zaxcom Inc. or a Zaxcom dealer in the region where the Product was first shipped by Zaxcom.

Warranty Policy

The Product carries a Standard Warranty Period of one (1) year.

NOTE: The warranty period commences from the date of delivery from the Zaxcom dealer or reseller to the end user.

There are no warranties which extend beyond the face of the Zaxcom limited warranty. Zaxcom disclaims all other warranties, express or implied, regarding the Product, including any implied warranties of merchantability, fitness for a particular purpose or non-infringement. In the United States, some laws do not allow the exclusion of the implied warranties.

Troubleshooting & Repair Services

No Product should be returned to Zaxcom without first going through some basic troubleshooting steps with the dealer you purchased your gear from.

To return a product for repair service, go to the Zaxcom Repair Services page <http://www.zaxcom.com/repairs> and fill in your information; there is no need to call the factory for an RMA. Then send your item(s) securely packed (in the original packaging or a suitable substitute) to the address that was returned on the Repair Services page. Insure the package, as we cannot be held responsible for what the shipper does.

Zaxcom will return the warranty repaired item(s) via two-day delivery within the United States at their discretion. If overnight service is required, a FedEx or UPS account number must be provided to Zaxcom to cover the shipping charges.

*Please note a great resource to troubleshoot your gear is the Zaxcom Forum: <http://www.zaxcom.com/forum>

Warranty Limitations

Zaxcom's limited warranty provides that, subject to the following limitations, each Product will be free from defects in material and workmanship and will conform to Zaxcom's specification for the particular Product.

Limitation of Remedies

Your exclusive remedy for any defective Product is limited to the repair or replacement of the defective Product.

Zaxcom may elect which remedy or combination of remedies to provide in its sole discretion. Zaxcom shall have a reasonable time after determining that a defective Product exists to repair or replace a defective Product. Zaxcom's replacement Product under its limited warranty will be manufactured from new and serviceable used parts. Zaxcom's warranty applies to repaired or replaced Product for the balance of the applicable period of the original warranty or thirty days from the date of shipment of a repaired or replaced Product, whichever is longer.

Limitation of Damages

Zaxcom's entire liability for any defective Product shall, in no event, exceed the purchase price for the defective Product. This limitation applies even if Zaxcom cannot or does not repair or replace any defective Product and your exclusive remedy fails of its essential purpose.

No Consequential or Other Damages

Zaxcom has no liability for general, consequential, incidental or special damages. These include loss of recorded data, the cost of recovery of lost data, lost profits and the cost of the installation or removal of any Product, the installation of replacement Product, and any inspection, testing or redesign caused by any defect or by the repair or replacement of Product arising from a defect in any Product.

In the United States, some states do not allow exclusion or limitation of incidental or consequential damages, so the limitations above may not apply to you. This warranty gives you specific legal rights and you may also have other rights, which vary from state to state.

Your Use of the Product

Zaxcom will have no liability for any Product returned if Zaxcom determines that:

- The Product was stolen.
- The asserted defect:
- Is not present,
- Cannot reasonably be fixed because of damage occurring when the Product is in the possession of someone other than Zaxcom, or
- Is attributable to misuse, improper installation, alteration, including removing or obliterating labels and opening or removing external covers (unless authorized to do so by Zaxcom or an authorized Service Center), accident or mishandling while in the possession of someone other than Zaxcom.
- The Product was not sold to you as new.

Additional Limitations on Warranty

Zaxcom's warranty does not cover Product, which has been received improperly packaged, altered or physically abused.