INTRODUCTION

The MF Series of MicroFlashers are miniature panel-mount IR flashers. They are one of three elements needed to complete a remote control extender system:

- IR Main System Unit—Models MSU140, MSU250, MSU480 and MSU440Z.
- IR Sensors/Keypads—Models WS100, TS100, MS100, MS200, CS100, MVC100IR and the IntelliPad®.
- IR Flashers—Models MF1, MF1VF, MF2, MF2VF and the IRB1.

An IR sensor expansion hub, Model IRH610, is available to provide additional sensor inputs to your system.

When an IR remote sensor receives a command from a hand-held remote control, it sends a corresponding electronic signal through a wire to the main system unit. Here, the main system unit cleans and amplifies the electronic signal. Finally, the main system unit outputs the signal to the IR flasher which transmits the infrared command to the audio/video component you wish to control.

The MF MicroFlasher® sends the IR commands via flashes of infrared light in a precise pinpoint pattern from its single infrared LED. The output is extraordinarily accurate throughout a wide bandwidth. This allows the MF MicroFlashers to control most makes and models of IR controlled audio/video components.

The MF MicroFlashers are compatible with all Niles infrared extenders systems, IntelliControl® and MultiZone receivers and preamplifiers.

FEATURES & BENEFITS

- Miniature and discrete, the MF MicroFlashers mount directly to the IR remote sensor window of your audio/video component without disfiguring the appearance of your equipment.
- The MF Series is completely transparent to IR commands. Although the flashers appear to block the IR remote sensor window of your audio/video component, you can still directly operate your equipment using a remote control.

- All MicroFlashers come equipped with a 3.5mm mono mini-plug. This provides you with easy hookup for fast, trouble-free installations.
- All MicroFlashers have a strip of self-adhesive tape for quick and secure mounting to any hard, clean, dry surface.
- All MicroFlashers are supplied with an ample 10 feet of connecting wire.
- The MF1 and MF2 are supplied with an infrared blocking cover. This is useful if you have several identical TV's (or audio/video components), all using the same remote control and the same IR commands.

MF SERIES PARTS GUIDE

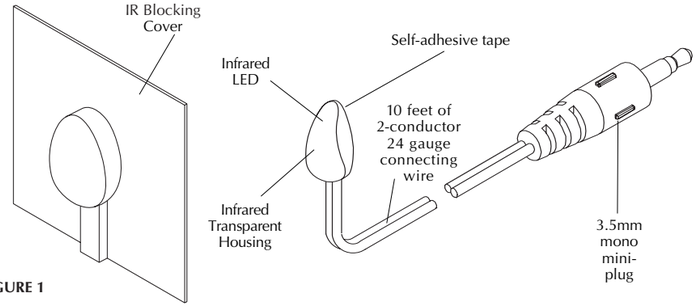


FIGURE 1

- The MF2 and MF2VF provide dual flashers on a single cable for simplified wiring or easy expansion of a main system units flasher outputs.
- The MF1VF and MF2VF provide visible feedback of flasher operation via a red LED in the flasher housing.

INSTALLATION CONSIDERATIONS

The MF Series MicroFlashers are typically mounted to the infrared remote sensor window of an audio/video component using the attached self-adhesive tape (Figure 2). The flasher directs its infrared output towards the sensor, not out into the room. Route the connecting wires close to the IR remote sensor window. That way, the minimum amount of wire will show. If the component has a tray or door that opens, you may have to route the wire from the top or bottom of the component. Make sure any loose connecting wire is taped securely in place and out of the way.

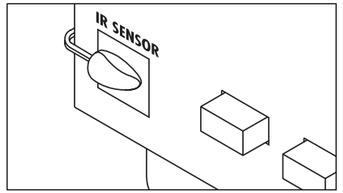


FIGURE 2 The MicroFlasher mounts directly over the infrared remote sensor window of your audio/video component.

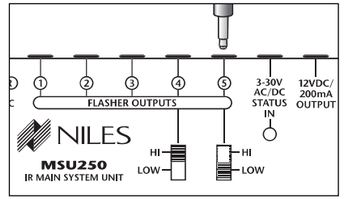


FIGURE 3 Connecting the MicroFlasher to the main system unit's flasher low outputs.

INSTALLATION & OPERATION

Locate the IR remote sensor window of each component you want to control. The sensor is usually located behind its own plastic window on the front of the component. On some equipment, the sensor may be hidden behind the plastic bezel covering the front panel displays. A bright flashlight is helpful for locating sensors on equipment with very dark plastic bezels.

Make sure the mounting surface is cleaned and degreased before installation. Attach the MicroFlasher directly over the IR remote sensor window of the component using its self-adhesive tape. The adhesive is strong enough to hold the flasher firmly in place yet it removes easily and without residue if needed. Route the connecting two-conductor wire to the Main System Unit and plug it into one of the flasher outputs (Figure 3). Coil any excess wire and tie it in place.

WARNING! MF Series MicroFlashers may be damaged by excessive flasher level output from the Main System Unit!

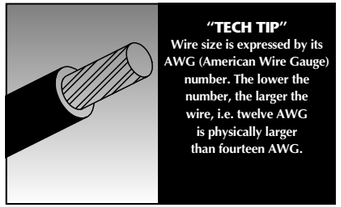
On main system units with selectable flasher outputs (MSU250, MSU480 and MSU440Z) make certain the Hi-Low switch is placed in the "Low" position (See Figure 3).

Increasing the Wire Length

If the connecting wire is too short to reach the Main System Unit, an additional length of wire may be spliced in to extend it. Cut the flasher wire approximately six inches from the plug end, strip off 1/4", and connect your additional wiring between the ends of the original flasher wire. For distances between 10 and 20 feet upgrade the original wire to an 18 gauge 2-conductor wire. For distances of up to 200 feet a 16 gauge two-conductor wire should be used.

BE SURE TO OBSERVE PROPER POLARITY WHEN EXTENDING THE FLASHER WIRE.

The wire lead marked with a gray stripe is positive (+); the unmarked lead is negative (-).



"TECH TIP"
Wire size is expressed by its AWG (American Wire Gauge) number. The lower the number, the larger the wire, i.e. twelve AWG is physically larger than fourteen AWG.

Over Please

NILES®

Niles Audio Corporation
12331 S.W. 130 Street Miami, Florida 33186
Tel: (305) 238-4373 Fax: (305) 238-0185
www.nilesaudio.com

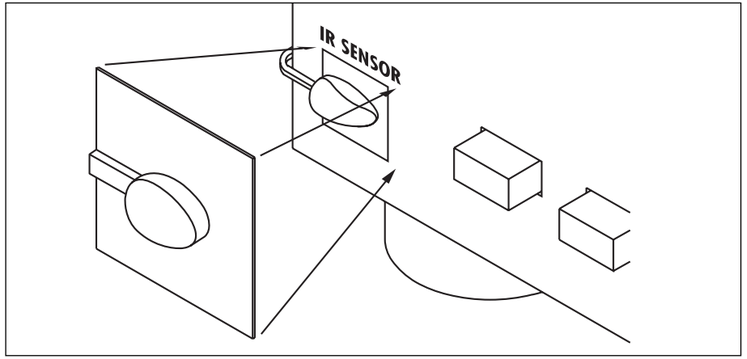


FIGURE 4 Mounting the IR blocking cover

Using the IR Blocking Cover
To prevent your A/V component from receiving IR commands from sources other than the MicroFlasher, the IR blocking cover should be used. The IR blocking cover is designed to cover both the MicroFlasher and the IR sensor window of the component. The blocking cover serves two functions:

1. It ensures that a component receives IR signals solely from the MF1 or MF2.
2. It prevents the IR output of the MF1 or MF2 from radiating to other components or IR sensors.

Mounting the IR Blocking Cover
Make sure the mounting surface is clean before installing the blocking cover. You may improve the appearance by trimming the cover with scissors to exactly cover the remote sensor window. Mount the blocking cover (using the self-adhesive tape) so that the MF1 or MF2 and the IR remote sensor window of the component are completely covered (Figure 4).

TROUBLESHOOTING

This troubleshooting section addresses the most common problems that prevent an infrared flasher from operating correctly.

Testing the Remote Control
Test that the hand-held remote control operates the component when you point it at the front panel (check the batteries if it does not).

Main System Unit Power Supply
Check that the red power light on the main system unit is lit (the in-line power supply should be plugged into an active AC wall outlet and supplying 12V DC).

Optical IR Feedback Loop
If there is an IR sensor and an IR flasher located within the same room—an "optical IR feedback loop" can occur. This occurs when the IR output from a flasher unintentionally reaches an IR sensor located within the same room. The IR commands are eventually forwarded back to the IR flasher and the whole process endlessly repeats itself. This effect is similar to acoustical feedback (the howling or whistling sound heard in a P.A. system when the microphone is placed too close to the speaker).

The optical IR feedback loop can be eliminated by one of the two following methods:

1. Place the IR blocking cover over the MicroFlasher.
2. Move the IR sensor to a different location.

If problems persist, refer to the user's manual for the main system unit, contact your local Niles dealer or call Niles technical support at 1-800-289-4434.

SPECIFICATIONS

IR System
Compatible with virtually all brands of remotes using carrier frequencies between 20 and 455 kHz.

IR Transmitting Range
Up to 4' (Typically mounts to the IR remote sensor window of an audio/video component).

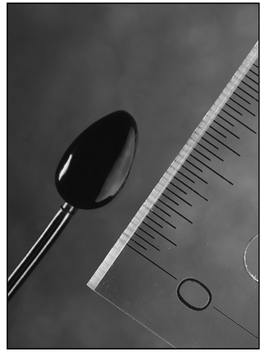
IR Transmitting Angle
Transmits in a "pinpoint" transmission pattern (the off-axis power drops off very rapidly).

Unit Dimensions
5/16" Wide x 3/16" High x 8/16" Long.

Mounting
Supplied with self-adhesive tape attached to the unit.

Wiring Requirements
Supplied with 10' of 2-conductor 24 gauge with a 3.5mm mono mini-plug. Substitute an 18 gauge 2-conductor wire for distances ranging from 10' to 20' and a 16 gauge 2-conductor wire for up to 200'.

IR Blocking Cover Dimensions
2" Wide x 2" High x 1/4" Deep.



MF Series

Infrared MicroFlasher®

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BLENDING HIGH FIDELITY AND ARCHITECTURE®