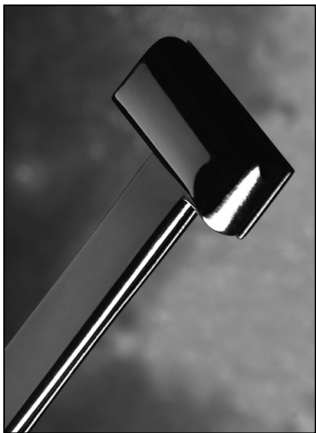




IRB1

High Output
Infrared Flasher



NILES®

INTRODUCTION

The IRB1 is a small, cabinet-mount high output infrared flasher. The IRB1 is just one part of the three building blocks necessary to complete a Niles IR 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 relays the infrared command to the audio/video component you wish to control.

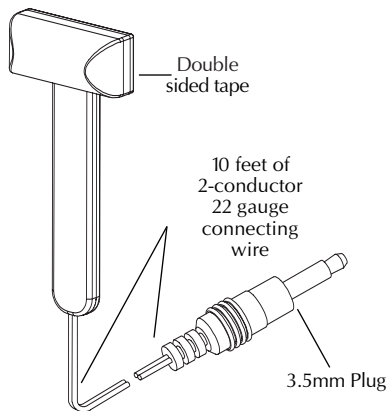
The IRB1 relays the infrared command using “flashes” of infrared light in a powerful flooding pattern from its two infrared LEDs. The output is extraordinarily accurate over a wide bandwidth. This allows the IRB1 to control most makes and models of IR controlled audio/video components.

The IRB1 is compatible with all Niles infrared extenders systems, IntelliControl® and MultiZone receivers and preamplifiers.

FEATURES & BENEFITS

- Two infrared LEDs give the IRB1 exceptional range and power. With proper placement, a single IRB1 flasher can control an entire stack of audio/video components.
- The IRB1 is equipped with a 3.5mm plug. This provides you with easy hookup.
- An adhesive-backed strip is included with the IRB1, providing quick, secure, mounting.
- The IRB1 is supplied with an ample 10' of connecting wire.

IRB1 PARTS GUIDE



INSTALLATION CONSIDERATIONS

The IRB1 is typically used as a “flooding” flasher to control a stack of audio/video components. For this type of application, place the IRB1 with its LEDs pointed straight up and at least an inch in front of the equipment you wish to control (See Figure 2). The effective range varies between 8' to 30' depending on the brand and/or the model of the audio/video component. Note: If cabinet dimensions permit, experimenting with the placement of the IRB1 may yield better operating results.

For tall stacks of components use multiple IRB1 flashers. For example, place one IRB1 at the top of a stack with the LEDs pointing down and one IRB1 at the base of the stack with the LEDs pointing up (See Figure 3).

In some installations there are shelves blocking a direct path between the IRB1 and the components' IR sensor window. It is possible to bounce infrared light off of smooth reflective surfaces (particularly white surfaces). If a suitable surface exists (like the back of a cabinet door, or a white wall within a few feet) try to place the IRB1 so that its reflected output reaches the sensor windows of the components (See Figure 4). If some of the components are still not getting adequate signal, mount a Niles MF series MicroFlasher® on the sensor window of each of the problematic components.

Sometimes, it is desirable to mount the IRB1 so that it directly faces the equipment from across

a room. In this type of situation the IRB1 has an effective operational range of 18' to 30' (depending on brand and model of audio/video equipment).

INSTALLATION & OPERATION

Route the connecting wire to the main system unit. Most Niles IR main system units feature specific flasher outputs that are selectable between low and high output. Insert the 3.5mm plug of the IRB1 into one of these selectable “FLASHER OUTPUTS” jacks on the MSU. Slide the corresponding switch on the MSU to the “high” position (See Figure 1).

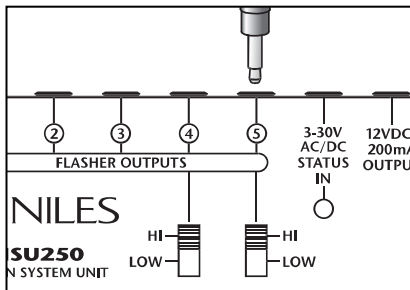


FIGURE 1 Connecting the IRB1 to the main system unit's flasher outputs.

Increasing the Wire Length

If the connecting wire is too short to reach the main system unit, a new length of heavier gauge wire should be spliced onto a six inch length of the original wire. For distances between ten and twenty feet upgrade the original wire to an

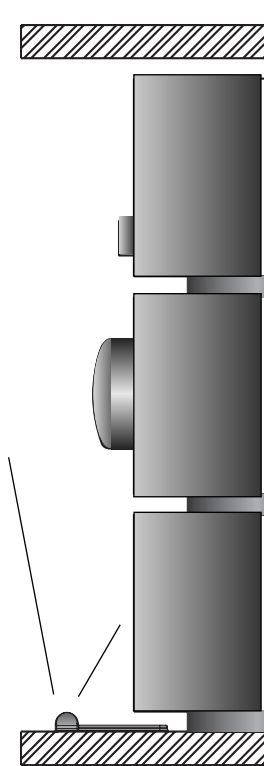


FIGURE 2 IRB1 placed at the bottom of the cabinet controlling a stack of components .

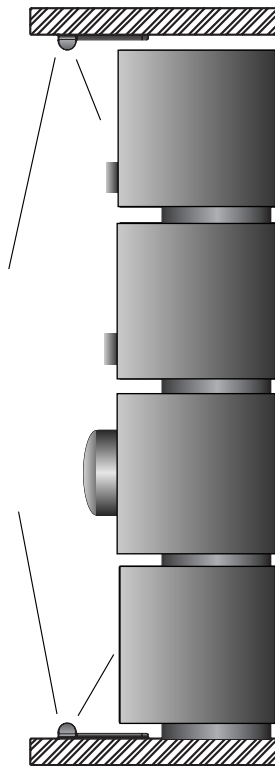


FIGURE 3 IRB1 placed at the bottom and the top of the cabinet controlling a tall stack of components.

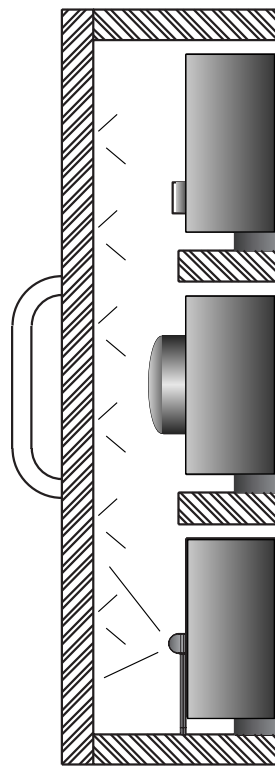


FIGURE 4 IRB1 placed facing the cabinet door controlling a stack of components by reflecting infrared commands.

eighteen gauge two-conductor wire. For distances of up to two hundred feet use a sixteen gauge two-conductor wire.

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 (-).

Mounting the IRB1

Test the operation of the IRB1 in the planned mounting location. If all of the components operate correctly via the IR repeater system, mount the IRB1 using it's self-adhesive strip. Make sure the mounting surface is clean and dry. Remove the protective coating from the back of the strip attached to the IRB1 and stick it in place. Coil any excess connecting wire and tie it in place.

TROUBLESHOOTING

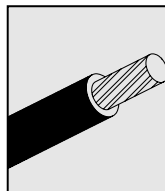
This troubleshooting guide discusses the most common problems that prevent an IR flasher from operating correctly.

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).



“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.

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. Relocating the sensor in order to break the IR feedback loop.
2. Replace the IRB1 with a MF Series MicroFlasher (MF1, MF1VF, MF2, MF2VF) for each component controlled by the problem-causing flasher.

If problems persist, refer to the user's manual for the main system unit or contact your local Niles dealer. If further assistance is required contact 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

18' to 30' if mounted so that the transmitting LEDs face the sensors in a direct line of sight.

IR Transmitting Angle

Variable with the brand and/or model of the audio/video component. Because of the high power and "flooding" pattern of the IRB1, extreme transmitting angles can be successfully used if the sensor window of the component is close.

Unit Dimensions

1" Wide x 2" High x 3/4" Deep (Includes double sided tape).

Mounting

Supplied with self-adhesive tape.

Wiring Requirements

Supplied with 10' of 2-conductor 22 gauge connecting wire and 3.5mm 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'.



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