

IRC-2 MicroFlasher™

INTRODUCTION

The IRC-2 is a miniature panel-mount IR flasher. It is one of three elements needed to complete a remote control extender system:

1. Remote Sensors
2. Main System Units
3. Infrared Flashers

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 IRC-2 sends the IR commands via flashes of infrared light in a precise pin-point pattern from its single infrared LED. The output is extraordinarily accurate

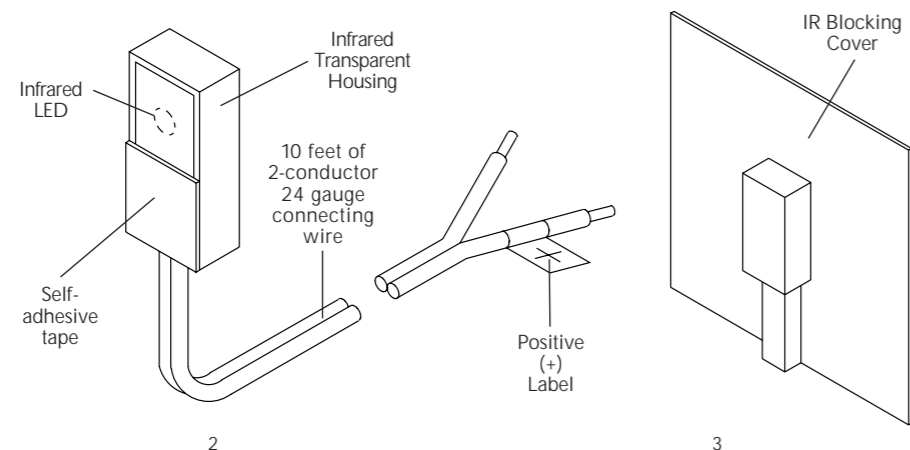
throughout a wide bandwidth. This allows the IRC-2 to control most makes and models of IR controlled audio/video components.

The IRC-2 is compatible with all Niles infrared repeaters, infrared routing devices, and multi-zone keypad systems that utilize bare wire connectors.

Tools Required

- 1/8" Standard Slotted Screwdriver
- Scissors (for IR blocking cover only)

IRC-2 PARTS GUIDE



FEATURES & BENEFITS

- Miniature and discrete, the IRC-2 mounts directly to the IR sensor window of your audio/video component without disfiguring the appearance of your equipment.
- The IRC-2 is completely transparent to IR commands. Although the IRC-2 appears to be blocking the IR sensor window of your audio/video component, you can still directly operate your equipment using a remote control.

The IRC-2 is equipped with pre-stripped, tinned and labeled wire ends. This provides you with easy wire hookup for fast, trouble-free installations.

The IRC-2 has a strip of self-adhesive tape for quick and secure mounting to any hard, clean, dry surface.

The IRC-2 is supplied with an ample 10 feet of connecting wire.

The IRC-2 is 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. The combination of an IRC-2 with a blocking cover and a Niles infrared routing device will allow you to change channels on one TV without changing another. See your Niles dealer for more information.

INSTALLATION CONSIDERATIONS

The IRC-2 is typically mounted to the infrared sensor window of an audio/video component using the attached self-adhesive pad (See Figure 1). The IRC-2 directs its infrared output towards the sensor, not out into the room.



FIGURE 1 The IRC-2 mounts directly over the IR sensor window of your audio/video component.

Route the connecting wires close to the IR sensor window. That way, a minimal 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.

Because of its discrete appearance some installers have mounted the IRC-2 to the cabinet or wall (with its LED pointed at the sensor window of the audio/video component). There are two challenges which must be overcome to successfully use the IRC-2 in this fashion:

1. The LED of the IRC-2 faces in one direction only, therefore you must mount a strip of self-adhesive tape on the side of the housing opposite the LED face. Use the extra pieces of double-sided adhesive tape supplied with the IRC-2.

2. Because the IRC-2 was designed primarily for pin-point relaying of IR commands, mounting directly to your component's IR sensor, the effective range is limited to 4 feet. Niles also manufactures high-output flashers, offering greater range and flooding angle, for these types of applications. Contact your Niles dealer for more information.

INSTALLATION & OPERATION

Locate the IR remote sensor 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 with the proper cleaner before installing the IRC-2. Attach the IRC-2 directly over the IR sensor of the component using its self-adhesive tape. The adhesive is strong enough to hold the IRC-2 firmly in place yet it removes easily and without residue if needed. Route the connecting two-conductor wire to the Main System Unit. Connect the ends of the wire to the positive and negative terminals labeled "Flasher" on the Main System Unit (See Figure 2). Coil any excess wire and tie it in place.

BE SURE TO OBSERVE PROPER POLARITY WHEN CONNECTING THE IRC-2. THE SILVER COLORED WIRE LEAD IS

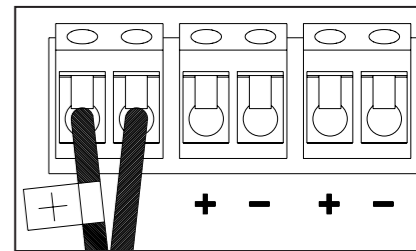


FIGURE 2 Connecting the IRC-2 to the Main System Unit's flasher outputs.

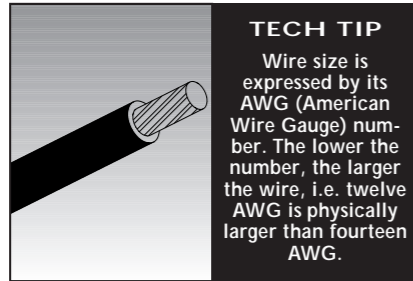
NEGATIVE (-); THE COPPER COLORED WIRE LEAD IS POSITIVE (+).

Connecting Multiple Flashers

It's possible to connect more than one flasher from a single output on a Niles infrared system. Consult the operating manual of the Niles Main System Unit or consult your local Niles dealer for more information.

Increasing the Wire Length

If the connecting wire is too short to reach the Main System Unit directly, an additional length of wire may be spliced in to extend it. Cut the flasher wire approximately 6



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.

inches from the plug, 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 2-conductor wire should be used.

To prevent your A/V component from receiving IR commands from sources other than the IRC-2, the IR blocking cover should be used.

Using the IR Blocking Cover

The plastic IR blocking cover is designed to cover both the IRC-2 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 IRC-2.

2. It prevents the IR output of the IRC-2 from radiating out into the room.

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 sensor window. Mount the blocking cover (using the self-adhesive tape) so that the IRC-2 and the IR sensor window of the component are completely enclosed (See Figure 3).

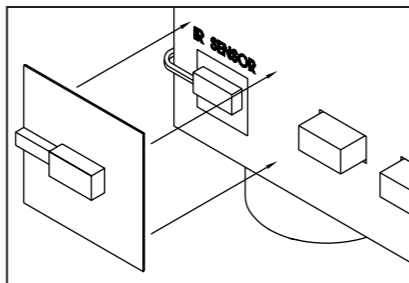


FIGURE 3 Mounting the IR blocking cover

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 wall adapter should be plugged into an active AC wall outlet and the wall adapter has to be supplying 12V DC).

Adjusting the Flasher Level

WARNING! IRC-2 MICROFLASHERS MAY BE DAMAGED BY EXCESSIVE FLASHER LEVEL OUTPUT FROM THE MAIN SYSTEM UNIT!

We recommend connecting IRC-2 MicroFlashers to the "variable" flasher output terminals on Niles Main System Units. The flasher level controls should be set by first starting at the minimum (fully counter-clockwise) position and increasing the output (clockwise) until the equipment responds reliably. A maximum of four IRC-2 MicroFlashers or two IRC-1 High-Output flooding flashers may be connected to a single flasher output terminal.

For main system units that enable you to adjust the flasher level, try adjusting the flasher level up or down (some components' sensors are overloaded by too strong a command from the IRC-2). If the operation of the component improves when the flasher level is all the way down, but it is still not perfect, try moving the IRC-2 so that it is farther away from the sensor window or off to the side of the sensor window. If adjusting the level down makes no change, or makes operation even worse, return the level to the full power position (clockwise).

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 IRC-2.
2. Reduce the flasher output until normal operation resumes. This is done by turning the Flasher Level Adjust (located on the Main System Unit) counter-clockwise.

If problems persist, refer to the user's manual for the Main System Unit or contact your local Niles dealer.

SPECIFICATIONS

IR System

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

IR Transmitting Range

Up to 4 feet (Typically mounts to the IR 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 11/16" High x 3/16" Long.

Mounting

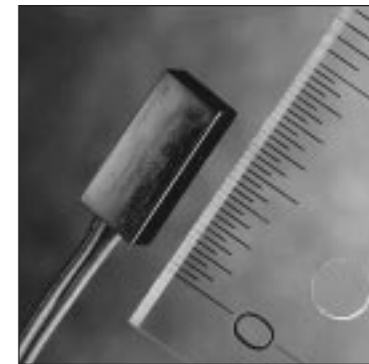
Supplied with self-adhesive tape attached to the unit.

Wiring Requirements

Supplied with 10 feet of 2-conductor 24 gauge connecting wire. Substitute an 18 gauge 2-conductor wire for distances ranging from 10 to 20 feet and a 16 gauge 2-conductor wire for up to 200 feet.

IR Blocking Cover Dimensions

2" Wide x 2" High x 1/4" Deep.



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