

HF SETUP GUIDE & SUPPLY CHART

The Monarch® 9855® HF (High Frequency) RFID printer has been engineered to program an HF RFID tag before the format is printed. RFID tags, also called “transponders,” contain an embedded programmable microchip and an antenna.

The HF printer supports multi-protocol encoding, including ISO15693 and I•CODE® UID protocols. The printer operates at 13.56 MHz.



The RFID supplies can be damaged by static electricity. Connect the printer to a grounded electrical outlet. Then, ground yourself by touching a metal surface, such as the printer’s metal base, before handling the supplies.

About This Guide

This *HF Setup Guide & Supply Chart* contains HF setup information. Additional RFID documents are available on our Web site (www.paxar.com).

Note: Information in this document supercedes information in previous versions. Check our Web site for the latest documentation and release information.

Use this guide to determine which type of HF supply you are using and set the printer for the correct protocol and attenuation.

Using HF RFID Tags

When using HF tags, you need to know the following information:

- ◆ Transponder manufacturer
 - ◆ Microchip manufacturer
 - ◆ Protocol
 - ◆ Amount of programmable memory
- For example, the Rafsec® 39x39 transponder uses:

- ◆ a Rafsec antenna
- ◆ an NXP/Philips microchip
- ◆ the ISO15693 protocol
- ◆ 28 blocks of user memory with 4-bytes per block that can be programmed.

Refer to the manufacturer’s *Transponder Specification* for more information about each transponder.

Setting Up the Printer

When you turn on the RFID printer, “Monarch Initializing” flashes briefly and then you see “Print Mode Ready.” If an error occurs while the printer is initializing, the error message flashes briefly on the display and then you see “Print Mode Ready.” The printer displays “Not available” when you try to select the RFID menus if the module is inoperative. The printer accepts RFID and non-RFID batches once you see “Print Mode Ready.”

Selecting a Protocol

The printer defaults to **AUTO-Select** for the protocol. We recommend using this setting because the printer automatically senses the protocol based on the HF supplies loaded. You can use one type of HF tag and then load a different HF tag without changing the protocol setting.

To manually select a protocol, from the Main Menu, select **Setup, RFID, then Protocol**. When you see the protocol you want, press **Enter/Pause**.

Note: The attenuation must be set for each transponder type.

Setting the Attenuation

The attenuation setting is a recommended starting point. It may need adjustment based on your results.

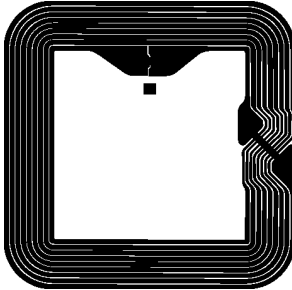
- ◆ If the attenuation is set too high or too low, you may not be able to read the tags or you may change the data that was programmed in adjacent RFID tags.
- ◆ Use extreme caution when increasing or decreasing the attenuation setting because the RFID tag may become non-functional.

Use the following antenna illustrations to determine which type of RFID supplies you have. Printing over the RFID transponder causes printing irregularity. Depending on the width of the inter-label gap (space between die cut labels), you may need to increase or decrease the print and supply position settings.

Measurements are rounded up or down to the nearest tenth.

ISO15693/IEC15693 Protocol

Antenna:



Rafsec® 39x39



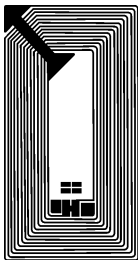
**TI Tag-it™
Mini-Rectangle**

Antenna 1.5" x 1.5"
Size W x L: 39mm x 39mm

0.9" x 1.5"
22.8mm x 38mm

I-CODE UID Protocol

Antenna:



**TAGSYS RFID™
Folio420**

Antenna 0.7" x 0.1"
Size W x L: 18mm x 3mm

Rafsec® 39x39 Transponder Information

Use this table to manually select your protocol and set the attenuation, based on your transponder. We recommend using the AUTO-Select protocol setting. Measurements are rounded up or down to the nearest tenth.

Microchip Manufacturer	Minimum Label Size Width x Length	Memory	Protocol	Attenuation
NXP/Philips I-CODE Microchip	1.8" x 2.5" 46mm x 63.5mm	1024-bits	NXP ISO15693	2

TI Tag-it™ Mini-Rectangle Transponder Information

Use this table to manually select your protocol and set the attenuation, based on your transponder. We recommend using the AUTO-Select protocol setting. Measurements are rounded up or down to the nearest tenth.

Microchip Manufacturer	Minimum Label Size Width x Length	Memory	Protocol	Attenuation
TI Tag-it HF-I Standard Microchip	1.7" x 2.2" 44mm x 57mm	256-bits	TI ISO15693	2

TAGSYS RFID™ Folio420 Transponder Information

Use this table to manually select your protocol and set the attenuation, based on your transponder. We recommend using the AUTO-Select protocol setting. Measurements are rounded up or down to the nearest tenth.

Microchip Manufacturer	Minimum Label Size Width x Length	Memory	Protocol	Attenuation
NXP/Philips I-CODE UID Microchip	0.9" x 4.0" 22.8mm x 102mm	196-bits	I-CODE UID	2

