



S84 **ex**

UHF RFID Configuration Guide

Thank you for choosing a SATO RFID Printer. This guide will help configure the printer to encode your inlays.



Five Easy Steps of RFID Configuration

- 1 Determine Printer Orientation.
- 2 Examine Labels to determine printer settings.
- 3 Set up printer.
Menu Settings
- 4 Set Labels and Carbon Ribbon.
- 5 Confirm operation by printing/encoding a label.

Refer to the S84-ex Operator Manual for more information.
You can access the S84-ex Operator Manual from the website for your region linked from.

1 Determine Printer Orientation.

A Americas: Standard/Right Hand
Europe/Asia: Left Hand



Media feed direction

B Americas: Opposite/Left Hand
Europe/Asia: Right Hand



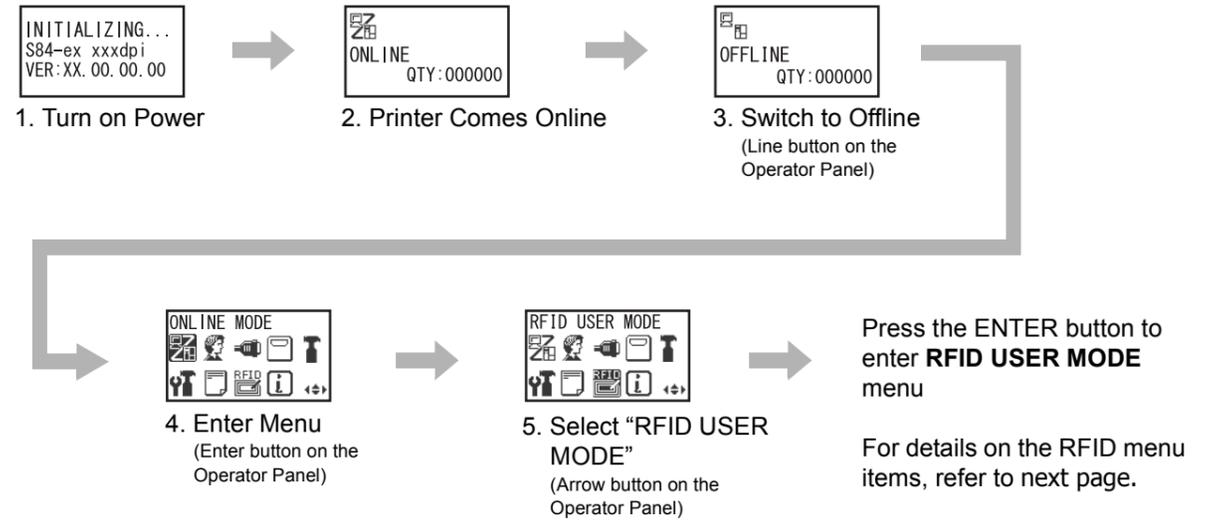
Media feed direction

2 Examine labels.

Refer to the **S84-ex UHF Inlay Configuration Guide** for what measurements you should take and what they mean, as well as a list of inlays and their required configurations.

3 Set up printer.

Menu Settings:
Adjust the Write Power and Read Power according to required levels on the list of the **S84-ex UHF Inlay Configuration Guide**.



4 Set Labels and Carbon Ribbon.

Refer to the sticker on the printer's top cover and the Operator Manual for more information.

5 Confirm operation by printing/encoding a label.

Be sure to read the data and check that it is correctly encoded.

Explanation of RFID menu items

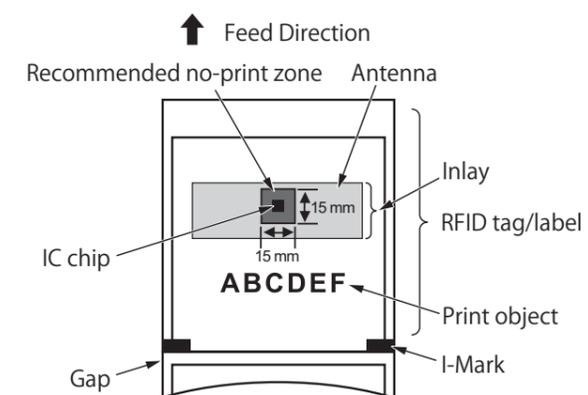
RFID LIFE COUNT	RFID LIFE COUNT displays the number of encoding successes, failures, and total attempts. Value persists when RFID count is cleared. (SUCSESSES, FAILURES, TOTAL)
RFID COUNT	RFID COUNT displays the number of encoding successes, failures, and total attempts. (SUCSESSES, FAILURES, TOTAL)
CLEAR RFID COUNT	Clears RFID COUNT display screen. "YES", "NO"
RFID LABEL DATA	Determine whether to retry encoding of failed data after error recovery. "RETRY", "RELEASE" The "RELEASE" option deletes the current print job, allowing the printer to move on to the next print job. When "RETRY" is selected, the printer will continue to attempt encoding the same data.
MAX ERR COUNT	Number of failed encoding attempts before error warning/print pause. "0 - 1 - 9"
RFID ERR SLASH	Determine whether to print a slash or "RFID TAG ERROR". "YES", "NO" When "YES" is selected, a slash will be printed. When "NO" is selected, only "RFID TAG ERROR" will be printed.
RFID ERR OUTPUT	Allows the user to set the signal type for RFID errors. "PULSE", "LEVEL"
LENGTH OF PULSE	Allows the user to select the length of an RFID error pulse. This menu is displayed when the RFID ERR OUTPUT is set in Pulse. "100ms", "200ms", "300ms", "400ms", "500ms"
READER VERSION M6e Micro	Display firmware version of installed RFID reader module.
VIEW	When selected printer will attempt to read the tag currently set in the printer. Select the memory bank from which to read information. "VIEW EPC DATA", "VIEW TID DATA", "VIEW USER DATA", "VIEW PC DATA"
ANTENNA PITCH	Allows the user to select the "STANDARD" or "SHORT" pitch antenna settings. See "Antenna Pitch" in the S84-ex Inlay Placement & Configuration Table.
RFID TAG OFFSET	Distance to print on label BEFORE pausing to encode RFID. "0 - 240" (mm in unit) This setting will be used when labels are not compatible with the S84-ex's antenna positions.
WRITE POWER	Radio Power level used to write information to RFID tag. "0.0 - 10.0 - 24.0"(dBm) See "Write" under "Power" in the S84-ex Inlay Placement & Configuration Table.
READ POWER	Radio Power level used to read information from RFID tag. "0.0 - 10.0 - 24.0" (dBm) See "Read" under "Power" in the S84-ex Inlay Placement & Configuration Table.
MCS	Multi vendor Chip-based Serialization: use TID as base for SGTIN serial number. "ENABLE", "DISABLE"
Pre-Encoded Tag	Enable for tags with pre-encoded EPC serial numbers. EPC GTIN data still required. "ENABLE", "DISABLE"
Chip Manufacture	Manually select MCS manufacturer prefix. For use when MCS Prefix is "MANUAL". "IMPINJ", "ALIEN", "NXP". Value is ignored when Assign Prefix is "AUTO".
MCS Prefix	Automatically or manually assign MCS manufacturer prefix to serial number. "AUTO", "MANUAL"
MCS Prefix Digit	Determine length of manually assigned MCS prefix. For use when MCS Prefix is Manual. "0DIGIT(S)", "1DIGIT", "2DIGITS", "3DIGITS"
MCS Prefix Data	Set the MCS prefix data. Number of digits to be input is according to the setting of the MCS Prefix Digit. The default value is "000".
LOG	Record encoded tag information. "ENABLE", "DISABLE"
LOG Data	Used with Log mode: determine what information to record. "EPC and TID", "EPC", "TID"

* **BOLD** items are default settings.

RFID Printing Tips

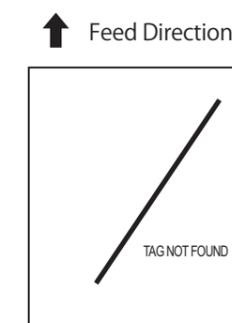
Recommended no-print zone

Avoid printing barcodes or characters directly on top of an RFID chip. The uneven surface will negatively affect print quality.



Printing of RFID tag errors

The printer can be set to print an RFID tag error when there is a problem with the recorded data, for example in a write to a defective tag, in order to prevent accidental distribution of a defective label. Depending on the error and the print command paper size setting, a diagonal line or a cross will be printed, together with a description of the error.



- List of errors printed

Message	Cause and Countermeasure	
TAG NOT FOUND	Cause	Tag cannot be found, or reading of tag failed.
	Countermeasure	Confirm inlay operation and check printer / antenna configuration.
WRITE TAG ERROR	Cause	Writing failed.
	Countermeasure	Confirm inlay operation and check printer / antenna configuration.
VERIFY ERROR	Cause	Written value does not match read value.
	Countermeasure	Confirm inlay operation and check printer / antenna configuration.
LOCKING ERROR	Cause	Locking process failed.
	Countermeasure	Check the label/chip.
MULTI TAG ERROR	Cause	Multiple tags captured simultaneously.
	Countermeasure	Confirm inlay operation and check printer / antenna configuration.
CHIP MAKER ERR	Cause	Chip manufacturer setting did not match label in printer.
	Countermeasure	Check label and set correct chip manufacturer.
MCS NOT SUPPORT	Cause	MCS function is not supported for chip in printer.
	Countermeasure	Use supported label/chip.
READ ONLY ERROR	Cause	Tag is read successfully, but writing failed.
	Countermeasure	Confirm inlay operation and check printer / antenna configuration.