

Mark IV Industries Corp.
RFM-S Transmitter Field Testing Guide
With Warning Statements
Confidential

A. Set Up TTS Reader:

Serial Comms: RS-232 19200 baud No Parity etc. standard stuff. The cable (null modem) runs out the top of the reader; connect to any DB-9 port on your host computer. Use a Straight through cable (male-female) if you need to extend the length.

B. Set up TTS with RFM-S Transmitter:

The RFM-S Transmitter must be inserted in Slot #1 (the left most) of the RF Rack.

C. List of Commands: (power on default)

IAGTEST Help Menu - NOT FOR PRODUCTION USE

PT <2-28 hex #>	- Program Tag, MASK data must match
RT	- Read Tag
IP	- Initialize Tag (FP ff's)
FP <2-28 hex #>	- Factory Program Tag, MSb must be 1
LP <2-28 hex #>	- Lock Program Tag, MSb must be 1
TP <6 hex #>	- Trim Program Tag, MSB (FF), IDLE(XX), ACTIVE(XX) (with VERIFY ON, FP is performed with TP data)
TL	- Lock Trim Values in Tag
IC [<#>]	- Iteration Count, # of triggers per RT/PT
PW [<#>] us	- Pulse Width, either 20, 33 or 40 us
REPEAT [<#>]	- Repeat Count, repeat PT/RT/FP/TP # times - ESC to stop
DELAY [<#> OFF]	- Repeat Delay, repeat cycle delay, OFF for no screen updates
DETAIL [ON OFF]	- Repeat Detail ON/OFF, show full data during repeat cycles
INC [ON OFF]	- Repeat Increment ON/OFF, increment last 4 bytes during PT
STAT [ON OFF]	- Repeat Statistics ON/OFF, displays on last cycle
VERIFY [ON OFF]	- IP/FP/LP/TP Verify ON/OFF (PT always verifies)
PD [<#>]	- Program Delay. TXDATA delay between TRIGGER and IP/FP/LP/TP data (NOT header): # us = ~ PD x 2.4 + 60 ex. 250 (default) = ~ 660 us (nominal)
CONFIG	- Return Configuration Summary

The above list can be obtained by typing ?<enter>.

D. Procedure to test and activate RFM-S:

In idle mode the reader generates NO RF. (RFM-S transmitter light off).

To turn on the RFM-S transmitter do the following:

- 1) Set the iteration count to a large number (IC 1000)
- 2) Issue a read transponder command (RT)

The iteration count is the number of 20 microsecond trigger pulses the reader will issue for every RT command.

for ic=1000 the reader will transmit for about 6-7 seconds.

for ic=2000 the time is around 13 seconds.

Max is 32767

Ignore all other commands.

E. Example:

```
ic 1000           //user input
IC=1000         //reader confirms

rt              //user input
READ ERROR     //after 1000 trigger pulses (about 6 secs later) reader
               //responds with "READ ERROR" since (we assume) no transponder
               //has been read.
```

(The iteration count is persistent. It remains the same unless changed or the reader is reset).

F. Warning Statement:

This device complies with Part 90 of the FCC Rules. Modifications not expressly approved by the manufacturer may invalidate the user's authority to operate the equipment