



# RF In Stadium Transmission System User's Manual

Network Transmitter

Model: ST100NT

2018-01-11



## Charge Battery Pack

Unit contains a 7.2V NiMH 3000mAh battery pack. Quick charge with a charger designed for NiMH cells using a current of 1.5A within +10°C to +40°C. Battery pack is not charged when connected to external 12VDC power. Battery pack must be removed and charged separately.

## Install Antennas

Attach provided antennas. Hand Tighten only.

- 902-928 MHz RP-SMA: Nearson S1551AH-915S (no stripes)
- 433 MHz RP-SMA: Linx ANT-433-CW-QW (red stripes)

## Switch On

Push the power switch to the ON position. Unit boots in 5 seconds. Heartbeat 1Hz pulse red ring LED indicates the unit is running and ready for operation.

## Switch On Master Controller

Toggle power switch to the ON position on the mating ST100MC Master Controller. Wait 20 seconds for the unit to boot.

## Set Frequency

Unit supports operation from 430.87 to 436.87 MHz in 50kHz steps. See Appendix A for complete channel list. Use ST100MC Master Controller to configure the operating frequency and visual blinking pattern parameters using USB connection with terminal emulation program. 9600/n/8/1.

## Push Activation Button

Press any of the keypad buttons on the Master Controller to generate the activation signal. Signal is generated for 4.8s.

## Specifications

Frequency: 902-928 MHz control network, 430.87 – 436.87 MHz activation channel (121 selectable).

Rated Power: 1W (902-928 MHz control network), -15dBm EIRP average (433 MHz)

Battery Life: 75h continuous (+10°C to +40°C). -20% derating at 0°C, -50% derating at -10°C. Sleep mode extends time between charges in the case of longer duration installs.

## Appendix A: Channels

| Channel | Freq (MHz) | Channel | Freq (MHz) | Channel | Freq (MHz) |
|---------|------------|---------|------------|---------|------------|
| 0       | 430.87     | 41      | 432.92     | 81      | 434.92     |
| 1       | 430.92     | 42      | 432.97     | 82      | 434.97     |
| 2       | 430.97     | 43      | 433.02     | 83      | 435.02     |
| 3       | 431.02     | 44      | 433.07     | 84      | 435.07     |
| 4       | 431.07     | 45      | 433.12     | 85      | 435.12     |
| 5       | 431.12     | 46      | 433.17     | 86      | 435.17     |
| 6       | 431.17     | 47      | 433.22     | 87      | 435.22     |
| 7       | 431.22     | 48      | 433.27     | 88      | 435.27     |
| 8       | 431.27     | 49      | 433.32     | 89      | 435.32     |
| 9       | 431.32     | 50      | 433.37     | 90      | 435.37     |
| 10      | 431.37     | 51      | 433.42     | 91      | 435.42     |
| 11      | 431.42     | 52      | 433.47     | 92      | 435.47     |
| 12      | 431.47     | 53      | 433.52     | 93      | 435.52     |
| 13      | 431.52     | 54      | 433.57     | 94      | 435.57     |
| 14      | 431.57     | 55      | 433.62     | 95      | 435.62     |
| 15      | 431.62     | 56      | 433.67     | 96      | 435.67     |
| 16      | 431.67     | 57      | 433.72     | 97      | 435.72     |
| 17      | 431.72     | 58      | 433.77     | 98      | 435.77     |
| 18      | 431.77     | 59      | 433.82     | 99      | 435.82     |
| 19      | 431.82     | 60      | 433.87     | 100     | 435.87     |
| 20      | 431.87     | 61      | 433.92     | 101     | 435.92     |
| 21      | 431.92     | 62      | 433.97     | 102     | 435.97     |
| 22      | 431.97     | 63      | 434.02     | 103     | 436.02     |
| 23      | 432.02     | 64      | 434.07     | 104     | 436.07     |
| 24      | 432.07     | 65      | 434.12     | 105     | 436.12     |
| 25      | 432.12     | 66      | 434.17     | 106     | 436.17     |
| 26      | 432.17     | 67      | 434.22     | 107     | 436.22     |
| 27      | 432.22     | 68      | 434.27     | 108     | 436.27     |
| 28      | 432.27     | 69      | 434.32     | 109     | 436.32     |
| 29      | 432.32     | 70      | 434.37     | 110     | 436.37     |
| 30      | 432.37     | 71      | 434.42     | 111     | 436.42     |
| 31      | 432.42     | 72      | 434.47     | 112     | 436.47     |
| 32      | 432.47     | 73      | 434.52     | 113     | 436.52     |
| 33      | 432.52     | 74      | 434.57     | 114     | 436.57     |
| 34      | 432.57     | 75      | 434.62     | 115     | 436.62     |
| 35      | 432.62     | 76      | 434.67     | 116     | 436.67     |
| 36      | 432.67     | 77      | 434.72     | 117     | 436.72     |
| 37      | 432.72     | 78      | 434.77     | 118     | 436.77     |
| 38      | 432.77     | 79      | 434.82     | 119     | 436.82     |
| 39      | 432.82     | 80      | 434.87     | 120     | 436.87     |

## Appendix B: Regulatory Statements

### Compliance Statement (Part 15.19)

*This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:*

- 1. This device may not cause harmful interference, and*
- 2. This device must accept any interference received, including interference that may cause undesired operation.*

### Warning (Part 15.21)

*Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.*

### FCC Interference Statement (Part 15.105 (b))

*This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:*

- Reorient or relocate the receiving antenna.*
- Increase the separation between the equipment and receiver.*
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.*
- Consult the dealer or an experienced radio/TV technician for help.*

*To comply with FCC/IC RF exposure limits for general population / uncontrolled exposure, the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 34 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.*

*This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions:*

*(1) This device may not cause interference; and*

*(2) This device must accept any interference, including interference that may cause undesired operation of the device.*

*This radio transmitter (IC: 11838A-INSTAD) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.*

Dipole (2.0 dBi), 90° articulated, RP-SMA, 204mm, 902-928 MHz, p/n: S1551AH-915S

¼ Wave (3.3 dBi), RP-SMA, 173mm, 433 MHz, p/n: ANT-433-CW-QW