

**Exhibit E**

**User's Manual**  
NTN COMMUNICATIONS, INC.  
FCC ID.:M8SNTN900H  
Wireless Host Data Terminal

## NTN 900 MHz WIRELESS TWO-WAY SYSTEM

### *Components of System*

- HDT (Host Data Terminal)
- RDT (Remote Data Terminal)
- CHARGER TRAY (5 RDT could be charged at once)
- HDT DC CABLE (Turn PC 4 pin into DC jack)
- INTERNAL RS-232 CABLE
- CHARGER ADAPTER
- HDT ANTENNA

### *Installation:*

NTN 900MHz wireless two-way system is applicable with NTN's group activities in a place such as restaurant. In a restaurant or public gathering, NTN would utilize the system by asking trivial questions and the audience would respond through NTN 900MHz system. Each installation staff is allowed to install the system only after he has been sufficiently train by NTN.

### *Installation procedures of HDT and RDT:*

Install HDT onto a PC:

- . Open up PC
- . Install HDT at disk drive and place LED outward
- . Connect RS-232 to HDT and PC's Com Port
- . Connect power inserter onto HDT's DC jack and connect the other power inserter to PC (4 pin power supply port)
- . Tighten the screw for HDT
- . Screw the antenna onto HDT
- . Install NTN's software
- . Install NTN's power charger (AC 120V only)
- . Put RDT into the charger to recharge

### *Instruction:*

This system is only compatible with NTN software

- . Turn on PC
- . PC will compile NTN's software automatically
- . Turn on RDT (turn on the start panel); follow the instruction of LCD

## FCC INFORMATION

The Federal Communication Commission Radio Frequency Interference Statement includes the following paragraph:

The 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 instruction, may cause harmful interference to radio communication. However, there is no grantee that interference will not occur in a particular installation. If this equipment dose 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 or more 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.

The user should not modify or change this equipment without written approval form NTN. Modification could void authority to use this equipment.

Notice: The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.



# NTN

# RF system

# Installation

# Manual

Preliminary Draft

Customer/ Representative Support

(800) 745-4686

**CONFIDENTIAL**

This is not a consumer product, and it is intended for use by NTN employees and representatives only. All other uses are strictly prohibited.

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## Overview

The NTN Communications Inc. interactive hospitality system installation consists of **four major elements**:

- 1) Downlink
- 2) Local RF delivery system
- 3) Video integration
- 4) Modem return path

The satellite data receiver (IDR), RF transceiver (Base Station), video card, and modem are all integrated in the computer. The system receives data from satellite via a .75 meter prodelin dish which has a non-penetrating mount. The computer output is converted to NTSC video by the video card, this signal is then inserted into the existing video distribution system. Participants interact with the system using wireless keypads called **Playmakers**. The Base Station broadcasts a RF signal, transmitting on 900 MHz range frequency. Additional antennas installed over the playing area deliver this signal and are connected to the Base Station with coaxial cable. The modem transmits data back to NTN's head end via an 800 phone number, completing the return path.

## 2) RF delivery System

### Base Station

Base Station, a transceiver that is installed inside the PC, transmits and receives signals to and from the playmakers and the PC. It has a TNC connector on the front and 2 indicator (Ready, Noise) lights.

### Antenna

Antenna is the interface between the Base Station (host) and the Playmakers (remotes). Therefore, it plays a crucial part in NTN's RF delivery system.

When running antenna line, be sure to mount the antenna at least 7 ft high and in the quietest spot in the main play area.

### Playmakers



Playmakers (remotes), the wireless, hand held keyboard terminals which are used to play the NTN games, transmit to and receive data from the NTN system. Playmakers have embedded features, which can be used to troubleshoot RF reception problem.

The Playmaker charging system must be on an uninterrupted power source. It is best that all Playmakers should be put out whenever possible for maximum game uses. It only takes 12 hours to fully charge the battery, the batteries should operate for no less than 16 hours under constant use; the batteries are NiMH. Consult with the subscriber to determine tray location. Optimally, Playmakers should be readily accessible to the serving staff. Install the charging trays as early as possible in the installation so they can begin charging.

### RF delivery system requirements

- ◇ Antennas installed in line of sight central to the playing area.
- ◇ RG6 cable or provided RG58



### DO NOT:

- ◇ Locate antennas near any potential sources of interference to the NTN system i.e.: neon and fluorescent lights, projection TV's, electrical panels etc.
- ◇ Allow antennae ends or boxes to come in contact with any metal.
- ◇ Run cable next to electrical lines.

- ◇ Locate antennas above the ceiling.
- ◇ Mix RG6 and RG58
- ◇ Splice cable
- ◇ Coil excess cable

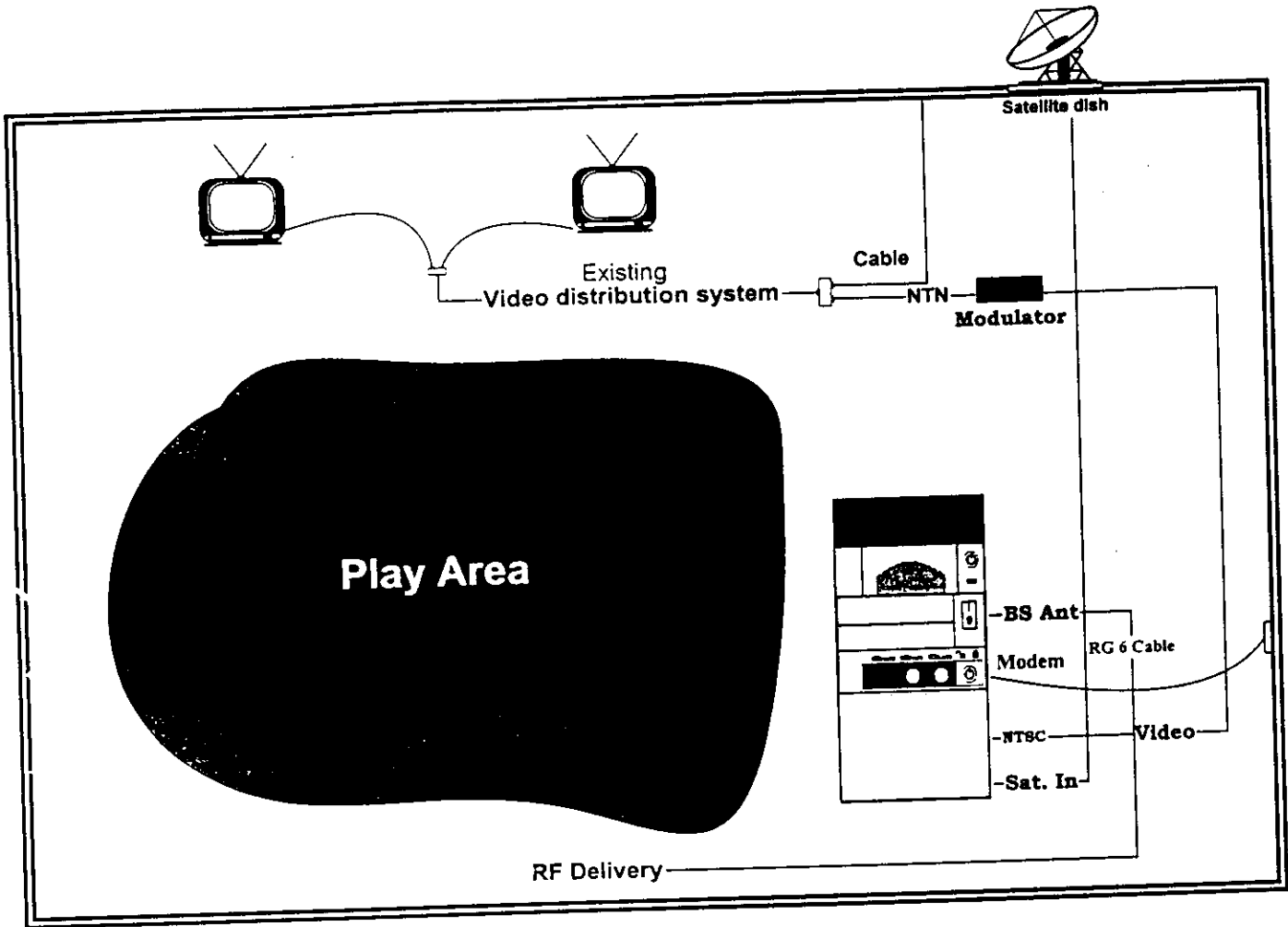
### FCC Disclaimer

This equipment has been tested and found to comply with the limits for a Class B Computing Device Peripheral, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. In such cases the use is encouraged to try to correct the interference by one or more of the following measures:

- \* Reorient or relocate the receiving antenna.
- \* Increase the separation between the equipment and the 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.

**CAUTION:** Any changes or modifications to the NTN Base Station or the attachable antenna not expressly approved by NTN voids the user's authority to operate the equipment.

## (3) Site Set up with NTN



## (4) Testing Procedures



Perform all of the following upon completion

- ◇ Verify that Playmakers do not have duplicate addresses
- ◇ Playmaker reception test
- ◇ Downlink signal quality check
- ◇ Modem test
- ◇ Coldboot the computer 5 times, verifying that it boots without incident



◇ Contact NTN Customer Support upon completion for documentation and remote testing at **(800) 745-4686**

## **0. Playmakers frequencies and number verifications**

1) Presses "START" then press "N" within one second to enter Playmaker management function; you will be prompted for password: default is "AAAA". You will see the following displays:

1)WS 2)Seq 3)Pwd 4)Cha 5)Rst 6)Tst 7)xxx Q)Exit

**1)WS** is to set Playmaker number (1-200). In the near future, the Playmaker number will be eliminated. It will be automatically assigned by HDT each time RDT power on.

**4)Cha** is to set Playmakers scanning frequency. It should be set to "A" and range from 01-04.

Press "Q" to exit management function, and "ESC" will take you one menu level up.

# APPENDIX

## **RF Delivery Guidelines**

Basic Antenna assembly (group) = (1) 10 ft RG58 cable, fittings, (1) antenna box, (2) antenna ends.

Antenna placement depends on the environment and the size of the playing area. Wood structure has no effect on RF signals. Metal, brick and concrete will greatly affect RF signals.

### **1. Installing Antenna assembly**

- A. If the playing area = 100 ft x 100 ft: One antenna assembly can be installed anywhere within the playing area.
- B. If the playing area = 200 ft x 200 ft: One antenna assembly must be installed close to the center of the playing area.

### **2. Installing Coaxial Cable**

- a. Use either provided RG58 cable.
- b. Avoid running cable over or parallel to electrical wires.

### **3. RF broadcast and receive test**

Run diagnostic screen from the main menu. Press any key on the playmakers. Playmakers should beep. The LCD screens on the playmakers and the TV screens should show the keys you just pressed.

- If the key strokes do not show up on the TV screen, the Base Station is not receiving the data from the playmakers.
- If the playmakers do not beep, they're not receiving data from the Base Station. If it happens to only one playmaker, it's a bad playmaker.
- If the playmakers are receiving but the LCD on the playmakers do not show any key, the playmakers may have bad LCD or they do not transmit data correctly.