



Smart Display-Mpalyer Box N20

Product Specification

Version: Ver1.0

Statement

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Update Record

No.	Version	Remark	Date
1	Ver1.0	Initial	10 th Jan 2022

Note: Document contents are subject to change without prior notice.

Shanghai Xixun Electronics Co., Ltd.

Product Introduction

NTCIP, short for National Traffic Communication Intelligent Transportation System Protocol, is a series of standards designed to enable interoperability and interchangeability between computers and electronic traffic control equipment from different manufacturers.

Since its release, it has been identified as the best transport communication protocol with good functionality. Its most prominent feature is compatibility when connecting field devices and systems of different channels, and the integration effort and cost are lower.

So far, developed countries such as the United States, Canada, Singapore, and the Netherlands have invested heavily in bringing NTCIP to market to support their plans to build smart cities. Since there are still a large number of field devices and hubs developed by different manufacturers on the market, NTCIP can serve as a standardized and scalable tunnel for the connection of different systems. It can be applied to different situations where device control requires a secure and stable network. We expect the need to implement NTCIP around the world to grow rapidly as more and more government/transportation departments begin to adopt best practices for transportation communications.

Transportation hub: airport, high-speed rail station, subway station, gas station, high-speed toll station entrance, customs entry and exit, service area;

Organs: government service halls, hospitals;

Commercial fields: shopping malls, supermarkets, hotels, theaters, banks, pedestrian streets, parks, scenic spots, street light poles.

Product Feature

NTCIP devices are core support nodes that help implement standard protocols. In general, NTCIP handles communication between different protocols through these devices, such as the control of different traffic guide boards. By installing NTCIP devices, you are able to broadly control and manage different communication channels in a more uniform and standardized way.

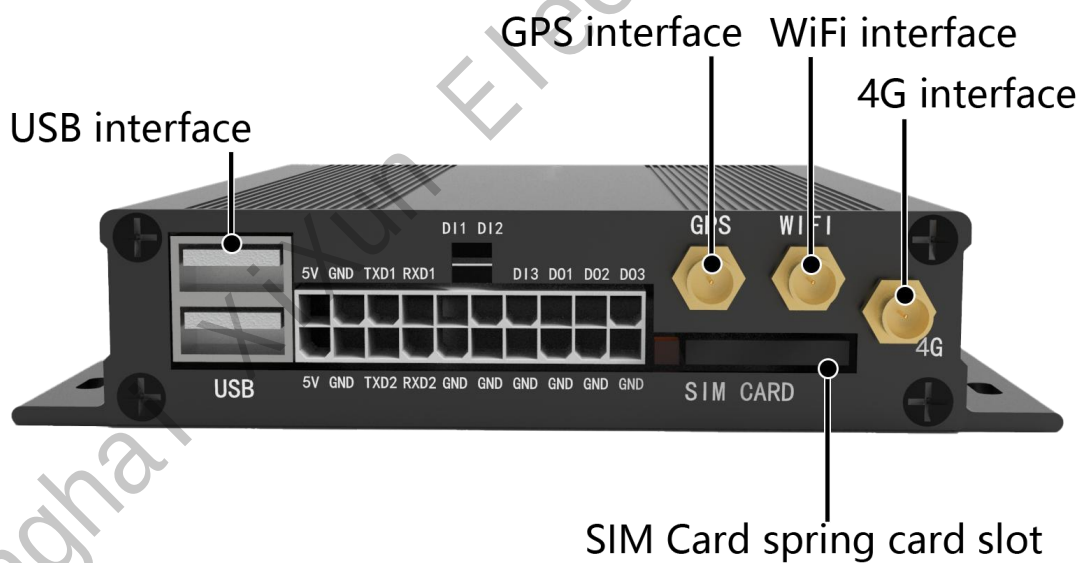
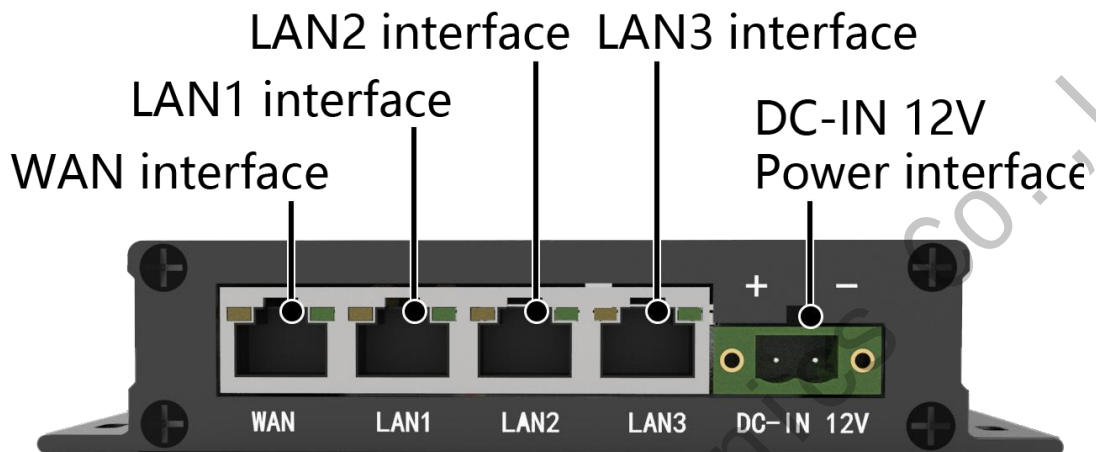
Product Pictures



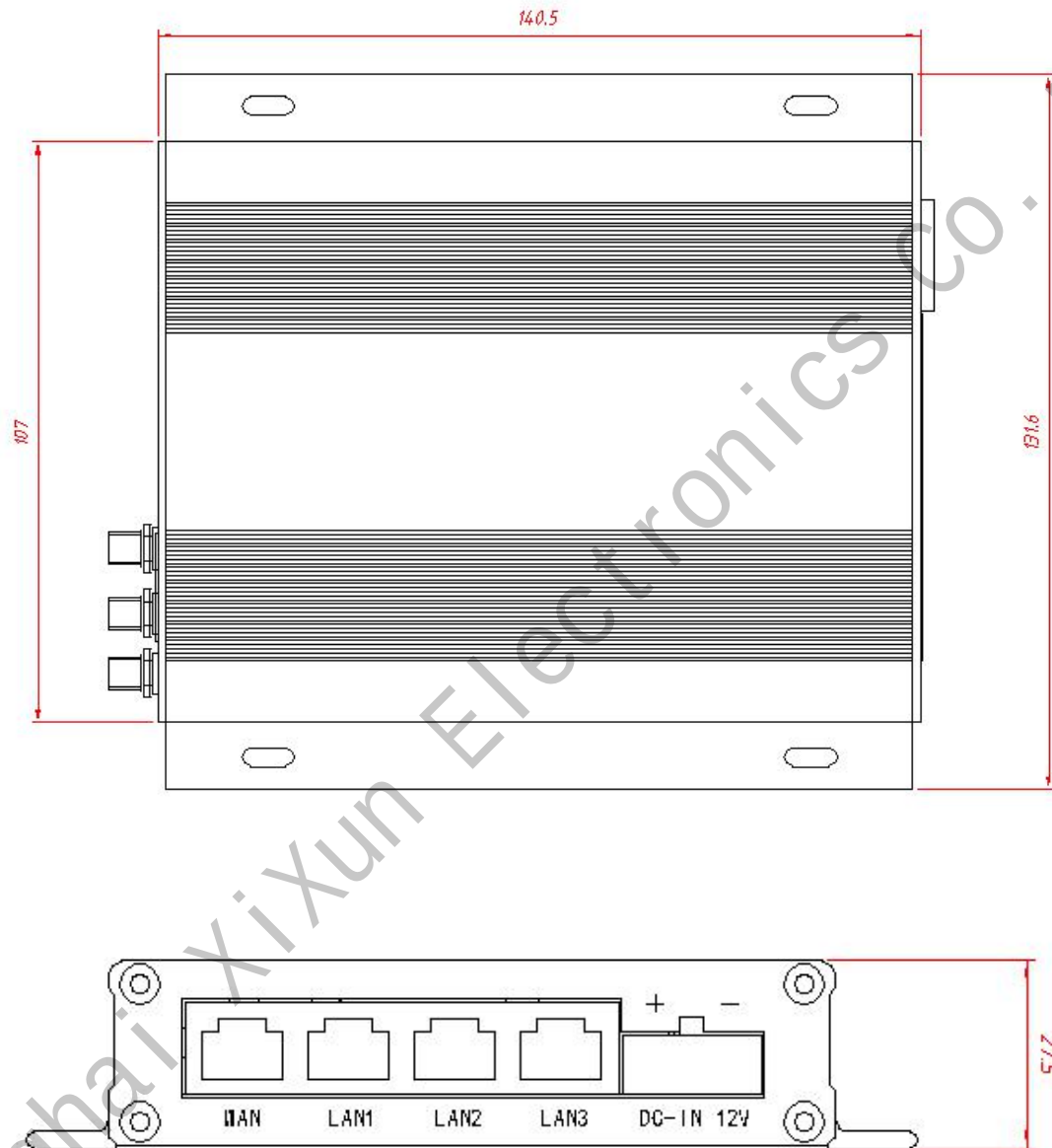
Product parameters

Type	Parameter
CPU	Quad-core 1.8GHZ 64-bit ARM Cortex™-A53
GPU	• High-performance multi-core GPU Mali T720 • OpenGL ES3.1/3.0/2.0/1.1 • Microsoft DirectX 11 FL9_3 • ASTC(Adaptive Scalable Texture Compression) • Floating point operation greater than 70 GFLOPS
RAM	DDR3 2GB
Flash	16GB EMMC
RTC	Support RTC
Network	WAN 10/100M X 1 LAN 10/100M X 3 Router function
USB	USB 3.0 x1 USB 2.0 HOST x1
UART	RS232 x2 DI x3 DO x3
Power input	DC9V~DC36V/1A
System	Linux (Ubuntu)

Interface Annotation



Dimension



Unit: mm

Software Specification

Supported standard

- a. Global object.
- b. Dynamic message flag.
- c. Environmental sensor system.
- d. CCTV camera control.
- e. Transportation System Sensors.

Secondary development environment (3 solutions supported by NTCIP devices)

oUse the NTCIP extension package for configuration. For example: changing the IP addresses of the source and destination locations, changing the mapping relationship, etc.

oUse the NTCIP extension package to be deployed. Any application development via .Net to NTCIP devices including 3rd party vendors (e.g. MSVisualStudio)

o(Recommended) Use SmartAgent IDE for application development and deployment Application scenarios.

NTCIP Center

NTCIP Center is a host computer software developed to control and manage all NTCIP devices. With SmartAgent IDE developed and maintained by our company, you can develop any customized application not only on NTCIP devices but also on NTCIP Center.

For the development and deployment of NTCIP centers, there are currently 3 solutions:

a. NTCIP Smart Configuration Tool

Smart Configuration Tool is a full stack toolkit for managing and testing each installed NTCIP device. It is compatible with different operating systems (e.g. Windows, Linux and MacOS) and embedded AMR devices.

b. SmartAgent IDE

SmartAgentIDE is a flexible development and deployment platform for you to create all the different applications. Its default programming language is Javascript. It is compatible with different operating systems (e.g. Windows, Linux and MacOS) and embedded AMR devices.

c. NET library

Embedding of .NET libraries, allowing you to easily use development platforms from third-party vendors (for example, MSSisualStudio).