



RTX GAMING
WIRELESS GAMING SOLUTIONS
PRODUCT SHEET

RTX designs and develops wireless gaming solutions for the gaming and e-sport industry. Irrespective of what the gaming motives may be, we deliver leading-edge technology that satisfies the needs from the casual gaming enthusiast to the professional gamer.

WIRELESS GAMING TECHNOLOGY

Playing games on PCs, consoles, or mobiles has become a worldwide obsession, whether playing for the pure entertainment value or doing it for a living. We all know that sometimes the difference in gaming between 'good' and 'great' is not just based on skills but also on the equipment that is used to fend off the opponents.

At RTX, irrespective of what the gaming motives may be, we deliver leading-edge technology that satisfies the needs from the casual gaming enthusiast to the professional gamer. Working with the leading gaming peripheral brands in the industry, we are providing the underlying wireless technology that provides superior audio quality in gaming headsets as well as ultra-low latency for gaming mice, controllers, and keyboards.

Best of all, our wireless technology allows you to cut the cord confidently. While in the past there has been concerns with wired versus wireless performance, RTX has proven the capability and reliability of our technology in delivery of ultra-fast speeds and resilient wireless link. With RTX's technology powering some of the most state-of-the-art and technically appealing gaming peripherals, becoming the 'victor' just became a lot easier.

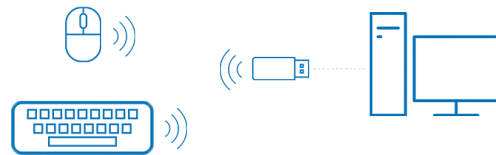
HIGH PERFORMANCE GAMING SOLUTIONS

RTX's gaming product solutions include the possibility of a single wireless small-form-factor USB dongle. It offers ultra-low latency and can be placed in either a gaming console or PC for the operation of the wireless solution in the gaming peripherals.

To meet customer's specific gaming needs, we provide solutions across multiple radio spectrums including the 2.4GHz frequency. Our gaming solutions offer a flexible framework with the option to deploy one or more Human Interface Device(s) (HID) with or without audio capabilities.

HID SOLUTION

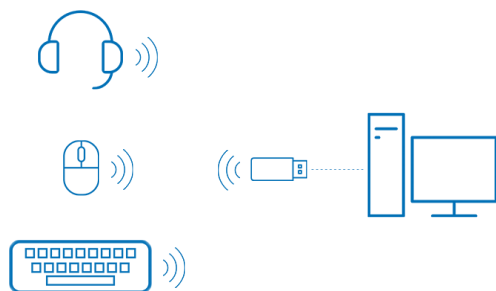
The HID solution is offered in either a Point-to-Point (one mouse, or controller, or keyboard connected to the USB dongle) or in a Multi Point-to-Point based offering, in which you can have up to three simultaneous gaming devices (mice, controllers, or keyboards) connected to a host (e.g. the USB dongle).



*Illustration 1:
The HID solution*

HID SOLUTION + AUDIO CAPABILITIES

For those who require connectivity of a gaming headset, we provide our HID solution with the addition of audio capabilities. Developed from the ground up based on decades of successful deployments of products in the professional audio space, we developed a new radio protocol stack for the gaming market. Based on the protocol's capability of delivering ultra-fast update rate for HID performance and ultra-low latency audio transmission of high-definition radio, you can enjoy support for simultaneous wireless operation of a headset, mouse / controller, and keyboard - all connected to one USB dongle.



*Illustration 2:
The HID solution + audio capabilities*

TECHNOLOGY AND MANUFACTURING

FAST READINGS AND ULTRA-LOW LATENCY

The gaming solutions support update rates of up to 2kHz for HID devices. The total system latency is 10 ms or lower depending on the configuration. The 10 ms covers the full audio path from audio in on the transmitter device to audio out on the receiver device (e.g. the headset speakers).

This is less than half of any comparable solution on the market today. With the ability to achieve latencies as low as 10 ms or lower for the operation of wireless gaming peripherals concurrently, there is no need to remain tethered to claim victory over the opponent.

RADIO RESILIENCE

Cutting the cord confidently has never been easier when RTX is powering leading gaming peripheral brands. We offer an adaptive radio which is resilient to typical sources of interference and with ultra-fast link recovery. It operates in the 2.4GHz frequency band and will expand to the 5.8GHz frequency band in the future.

Our smart algorithms, along with the ability to support antenna and channel diversity, continually monitor the radio spectrum and mitigate interference by having the ability to quickly switch to the best channel without any interruption in the gaming experience. When 'ping is king', every second counts and you can be assured solutions powered by RTX are up for the challenge.

POWER EFFICIENCY

Not only do we offer twice the audio bandwidth and half the latency of any equivalent chip / platform for gaming accessories in the marketplace today, but we do it at half the power consumption. Thus, with the RTX gaming solution a long operation time is ensured with even small capacity batteries.

MANUFACTURING INTEGRATION

RTX's experience in both superior audio and low-latency wireless solutions make us a valued partner in delivering solutions for the gaming eco-system.

Based on RTX's knowledge, expertise, and years of investment, our patent-pending technologies encompass key elements of the radio protocol and principles for robust audio in low-latency applications. In other words, we establish a new benchmark of performance for gamers worldwide.

The high-performance gaming solutions are available today and are comprised of a reference form factor hardware design and software development kit that enables access to programming elements embedded within the platform. Additionally, RTX offers the option for manufacturing and production capabilities which can help simplify your 'go-to-market' gaming strategy as well as ensure the most optimum end-to-end product and system deployments.

TECHNICAL SPECIFICATIONS

FEATURES	SPECIFICATIONS
HUMAN INTERFACE DEVICE (HID)	POINT-TO-POINT OR MULTI POINT-TO-POINT FOR MOUSE OR CONTROLLER AND/OR KEYBOARD
RADIO SPECTRUM	<ul style="list-style-type: none"> • 2402 – 2480MHz
MODULATION	<ul style="list-style-type: none"> • 2 Mbit/s, GFSK
DATA INTEGRITY CHECK	<ul style="list-style-type: none"> • CRC-24
ENCRYPTION OF PAYLOAD DATA	<ul style="list-style-type: none"> • AES 128
RADIO PROTOCOL	<ul style="list-style-type: none"> • RTX's proprietary radio protocol is optimized for gaming applications (patents pending). • Configurable payload sizes and radio frame structure for adaption of application requirements.
ANTENNA DIVERSITY	<ul style="list-style-type: none"> • Two antennas in both receiver and transmitter device. • Optimal performance although one antenna is blocked by, e.g. body.
CHANNEL DIVERSITY	<ul style="list-style-type: none"> • Two channels deployed for transmissions supplemented with intelligent retransmission scheme.
INTERFERENCE SCANNING / AUTOMATIC FREQUENCY (RE)SELECTION	<ul style="list-style-type: none"> • No use of frequency hopping. • Deploying RTX's intelligent channel selection methodology.
HARDWARE	<ul style="list-style-type: none"> • Key hardware components in standard designs: Nordic nRF52810/832/833/840
FEATURES	SPECIFICATIONS
HUMAN INTERFACE DEVICE (HID) + AUDIO	POINT-TO-POINT OR MULTI POINT-TO-POINT (THREE IN ONE) FOR MOUSE OR CONTROLLER, KEYBOARD, AND HEADSET
AUDIO LATENCY	<ul style="list-style-type: none"> • Approximately 10 ms or less depending on the configuration.
RTX SHEERSOUND™ AUDIO CODEC	<ul style="list-style-type: none"> • Standard configuration supporting 24-bit audio and 48kHz sampling rate.
LONG HEADSET BATTERY OPERATING TIME	<ul style="list-style-type: none"> • Power consumption of approximately 40mA depending on the application customization.
HARDWARE	<ul style="list-style-type: none"> • Key hardware components in standard designs: Nordic nRF52810/840 and Dialog DA14195, DA7217/18
USB DONGLE REFERENCE DESIGN	
USB CONFIGURATIONS	<ul style="list-style-type: none"> • USB (UAC1) audio interface with stereo speaker and mono microphone. • Customizable USB descriptors.
ORDERING DETAILS	DESCRIPTION
RTX GAMING PRODUCT SOLUTION	Contact RTX for more details and offer at sales@rtx.dk