FUJITSU

shaping tomorrow with you

IRES-700
20 W Outdoor Interference Cancellation System (ICS) Repeater

The IRES-700 Interference Cancellation System Repeater extends coverage of 4G/LTE networks at minimal cost.

IRES-700 ICS Repeater

Expand Public Safety LTE Networks Rapidly, Economically

Interoperable Platform for Wireless Public Safety Communications

Providing sufficient coverage is a significant challenge in greenfield wireless networks. Coverage is critical in the public safety sector, as fire, EMS, and law enforcement teams work best when they can communicate over a single, shared network.

Coverage gaps can slow response times and create confusion, potentially preventing personnel from doing their jobs effectively. Now, network planners have a tool to provide the seamless, reliable coverage public safety agencies need.

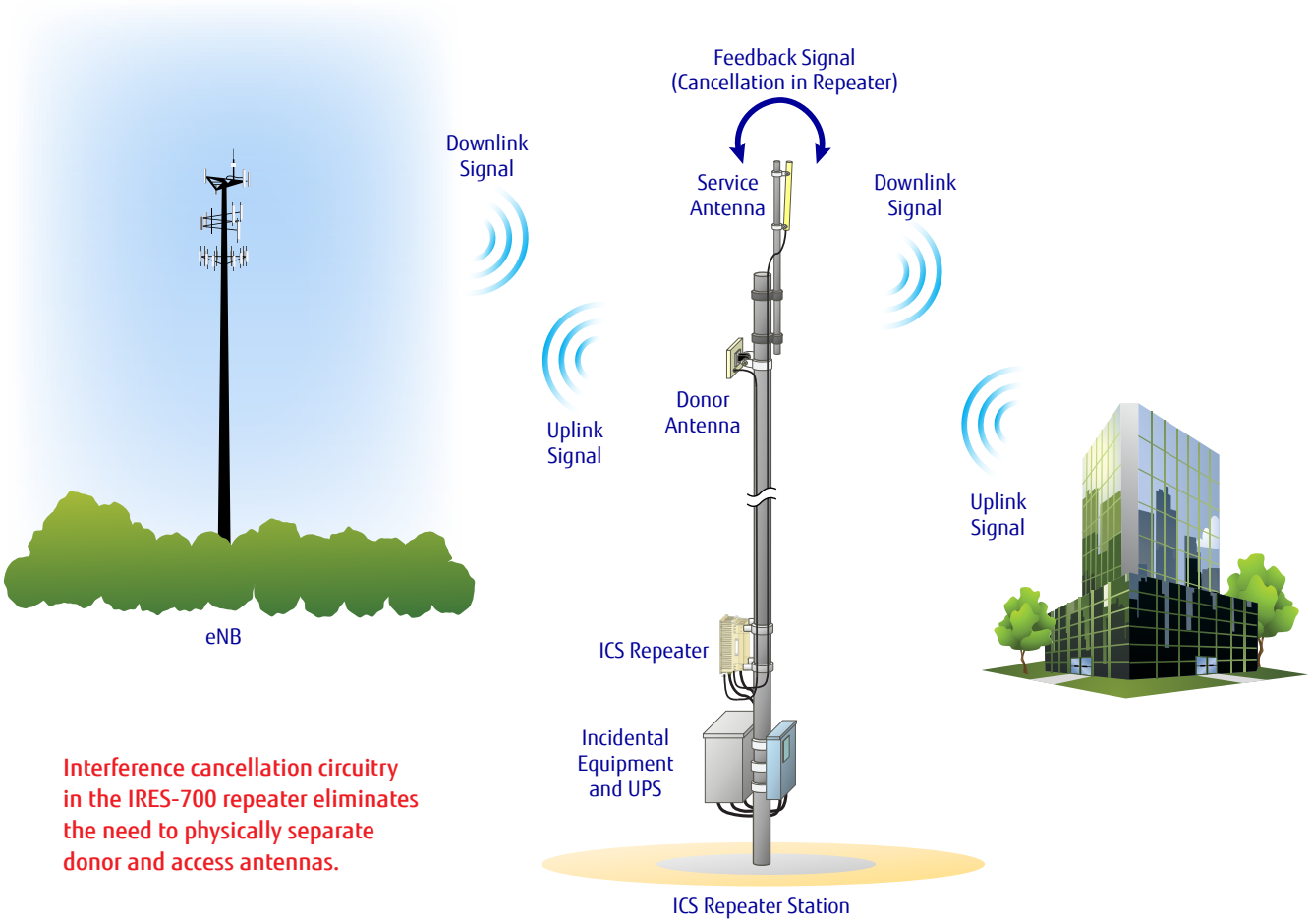
With the Fujitsu IRES-700 ICS Repeater, network planners can cost-effectively extend coverage in existing 4G/LTE networks quickly and effectively without the need for extensive backhaul.

Rapid, Economical Expansion of 4G/LTE Network Coverage

The IRES-700 repeater has an advanced interference cancellation system that supports Frequency-Driven Duplexing–Long-Term Evolution (FDD-LTE) networks, expanding or complementing the coverage area of Radio-Access Networks (RANs).

The repeater:

- Receives a signal from the Evolved NodeB (eNB) or its repeated signal (downlink), amplifies it, and retransmits it toward the User Equipment (UE).
- Receives a signal from UE or its repeated signal (uplink), amplifies it, and retransmits it toward the eNB.
- Removes the feedback signal (noise) between donor antenna and service antenna in both downlinks and uplinks.



Interference cancellation circuitry in the IRES-700 repeater eliminates the need to physically separate donor and access antennas.

Extend 4G/LTE Coverage without Backhaul

A Variety of Applications

This versatile repeater fits numerous applications:

- **Urban and suburban cell-edge extensions:** The IRES-700 solves coverage gaps caused by long-distance signal attenuation and by obstructions, including topographical features, large buildings, and foliage.
- **Highways and remote, rural, and mountainous areas:** In high traffic and beyond the cell edge, the IRES-700 efficiently extends coverage.
- **In-building coverage:** The repeater enhances signal penetration from outdoor cell sites.
- **Temporary, rapid deployment coverage:** The system provides coverage extensions with COW (cell-on-wheels) units deployed in emergencies or for large scheduled events.

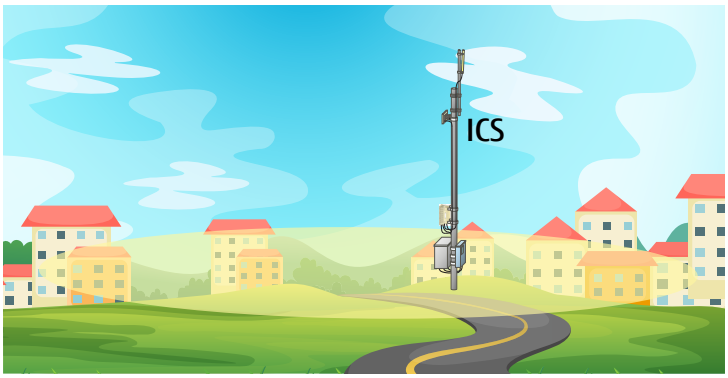
Unlike an eNB, the IRES-700 ICS Repeater does not require an access line for backhaul. As a result, operators can rapidly expand coverage with lower capex and opex.

Built-in Interference Cancellation Reduces Size and Cost, Increases Ease of Use

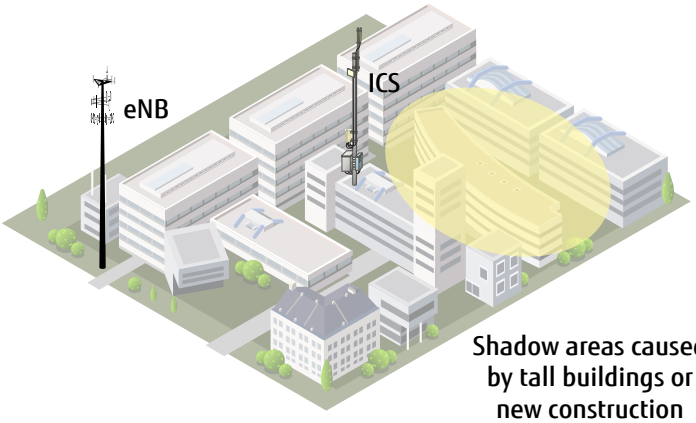
In repeaters without built-in interference cancellation, donor and access antennas require significant separation and, typically, two towers. This separation requirement can create operational issues and increase both capex and opex when many repeaters are deployed.

With the IRES-700, built-in interference cancellation eliminates the need for physical separation of donor and access antennas. A single mast can accommodate both antennas, and, in many applications, they can be mounted back to back.

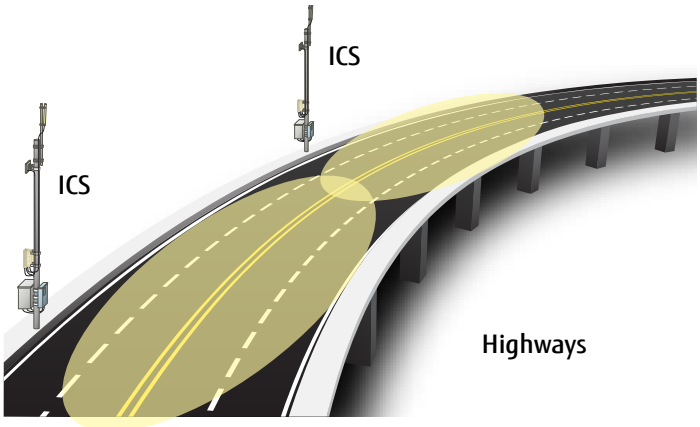
The Fujitsu IRES-700 ICS Repeater extends coverage everywhere you need it.



Remote, rural, and mountainous areas



Shadow areas caused by tall buildings or new construction



Highways

Features and Specifications

IRES-700 Repeater Reduces Capex and Opex

- **No backhaul required**
- **Ultra-low delay:** The repeater's ultra-low delay–less than 3 microseconds–helps prevent communication quality degradation due to Orthogonal Frequency-Division Multiple Access (OFDMA).
- **Coverage area stabilization:** The high-speed RS-AGC (Reference Signal–Automatic Gain Control) function stabilizes the coverage area by preventing fluctuating output power from the eNB or its repeated signal.
- **Compact with low power consumption:** All-in-one device includes interference cancellation circuitry, power amplifier, and unique DPD (Digital Predistortion) circuitry.
- **User-friendliness:** Built-in, high-performance software detects the PCI (Physical Cell ID) to aid operations and maintenance. CINR (Carrier to Interference and Noise Ratio) detection helps identify the repeater's received power.

Parameter	Specification
Band	700 MHz, Band 14
Frequency Range	Downlink: 758~768 MHz (LTE: 10 MHz) Uplink: 788~798 MHz (LTE: 10 MHz)
Gain Range	40 dB (60~100 dB : 1 dB step)
Maximum Output Power	Downlink: +43 dBm/10 MHz (20 W) Uplink: +30 dBm/10 MHz (1 W)
Noise Figure	Uplink: <5 dB (in maximum gain)
EVM	≤8%
System Delay	≤3.0 µs
Static Feedback Cancellation Capacity	D/U: –20 dB (Static Direct Feedback)
VSWR	≤1:1.5
Power Supply	–48 V DC ± 15%
Power Consuption	<200 W
Operating Environment	–22 to +122 °F (–30 to +50 °C)
Environmental	IP55
Certification	FCC CFR 47, Part 90
Safety	UL 60950-1 CAN/CSA C22.2 No.60950-1-07
Dimensions (H × W × D)	13.47 × 6.5 × 17.13" (342 × 165 × 435 mm) plus protrusion and bracket
Weight	44.1 lb (20 kg)

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