

FS31R-7PC

Remote Repeater Unit (RRU)

- 763-805 MHz Frequency Range
- 5 Watt Linear Output Power
- Fault-Over-Fiber Feature
- 6 and 12 MHz Passbands
- Rack-mount or Wall-mount Options



RF on Fiber® technology offers a new and flexible layer to traditional Distributed Antenna System (DAS) design. Fiber optic cable is not only less expensive to purchase and install than its coaxial counterpart, but it is virtually bandwidth unlimited, making it ideal for multi-service solutions and applications where long runs of coax become cost prohibitive.

Fiber-Span offers a broad range of RF-on-Fiber product to fit most wireless applications. Fiber-Span's FS3100 Series of product is designed to offer a reliable, low cost, and easy to implement solution for in-building, in-tunnel, and outdoor DAS applications.

The FS31R-7PC Remote fiber optic Repeater Unit (RRU) is part of Fiber-Span's FS3100 family of products and is designed to deliver up to +37 dBm of base-to-portable output power in the SMR band. It features an integrated high dynamic range fiber optic transceiver, a high gain, low distortion Silicon LDMOS Power Amplifier, and high Q bandpass duplexer. Standard filter options for the RRU include 6 and 12 MHz passbands. Consult Fiber-Span Sales for other filter configurations.

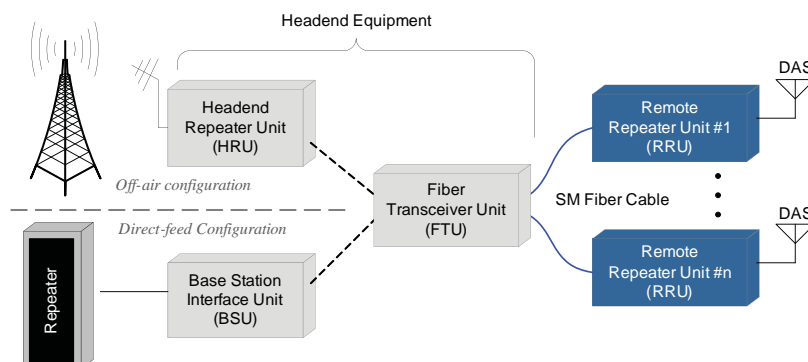
As depicted in the diagram below, a Fiber Transceiver Unit (FTU) is required to perform the RF-to-optical conversion at the headend. The FTU can be ordered in 1-port, 2-port, or 4-port

configurations for supporting up to 4 RRUs. Multiple FTUs can be used to support any number of RRUs. Refer to data sheet FS31F-01 for determining which FTU model number best fits your application. Consult Fiber-Span Sales for assistance in determining whether an HRU or BSU may be required for your application.

All of Fiber-Span's FS3100 series RRUs come standard with a Fault-over-Fiber feature that sends a summary fault condition over the uplink fiber path to the headend Fiber Transceiver Unit (FTU). The summary fault condition appears as a dry contact relay at both the back panel of the FTU, and as a local alarm to the RRU.

Applications:

- Shopping Malls
- Warehouses
- Parking Garages
- Airports
- Justice Centers
- Manufacturing Facilities
- Stadiums
- Convention Centers
- Universities



Fiber-Span is a world-leading manufacturer of RF ON FIBER® Communication Network Products for in-building, in-tunnel and outdoor coverage extension systems serving the Commercial Wireless, Public Safety, Government and Military markets.

| Parameter | Downlink | Uplink |
|--|---|-------------|
| Operational Range | 763-775 MHz | 793-805 MHz |
| Available Passbands | 6 & 12 MHz | |
| System Gain @ 4 dBo optical path loss | +40 dB | +32 dB |
| Composite Output Power | +37 dBm | +10 dBm |
| Gain Reduction (manual) | 20 dB continuous | n/a |
| Max. RF Input Level | +10 dBm no damage | |
| Uplink Noise Figure | < 11 dB at 4dBo | |
| Wideband Noise (dBm/Hz) | -92 dBm/Hz @ max gain | |
| Max. RF Output Power (per 25 KHz FM Channel) | 1 Carrier: +37 dBm, 2 Carriers: +34 dBm, 4 Carriers: +31 dBm, 8 Carriers: +28 dBm | |
| Spurious Emission | < -13 dBm | |

Environmental

| | |
|-------------------------------|-----------------|
| Operational Temperature Range | -5 to +50 deg C |
| Humidity | 10 to 95% |

Fiber Optic Parameters

| | |
|------------------------|--|
| Wavelength | 1310 nm |
| Laser type | DFB |
| Max. Optical Budget | Downlink: 4 -10 dBo ¹ Uplink: 10 dBo |
| Fiber Optic Cable Type | Single-Mode 9/125um |
| Connector Type | SC/APC |
| Back Reflections | < -50 dB typ. |

¹ Downlink fiber optic link budget is dependent on headend FTU configuration.

Electrical

| | |
|--|---|
| AC Power | 50/60 Hz, 115-230 VAC |
| Power Consumption | < 150 Watts |
| Local Alarms Dry Contact Relay: | 1. Laser Over Current 2. Opt. Rx 3. PA 4. Temp 5. Auxillary |
| Remote Alarms - Summary Fault sent to headend FTU over fiber | |

Mechanical Specifications

| | |
|-------------------------------|--|
| Dimensions (W x H x D) inches | Wall-mount: 16 x 18 x 9 Rack-mount: 19 x 7 x 21 |
| Weight (approx.) | Wall-mount: < 80 lbs. Rack-mount: < 60 lbs. |
| RF Connector Type | N-Female |

Ordering Information

| Identification | Part Number |
|----------------|--|
| FS31R-7PC | FS31R-7PC BBYYX |
| | Where: BB = Bandwidth Options (see table) |
| | YY = Enclosure Type (see table) |
| | X = W or N (see WDM table) |

Enclosure Type

RM=Rack Mount version **65**= Wall Mount IP65 enclosure
WM=Wall Mount (indoor rating) **66**=Wall Mount IP66 enclosure
4X=Wall Mount NEMA 4X enclosure
40=Wall Mount NEMA 4 enclosure

Bandwidth Option

06=6 MHz Passbands
12=12 MHz Passbands

WDM - Wavelength Division Multiplexing

W=Tx & Rx signals are multiplexed onto a single fiber.
N=Tx & Rx signals are on separate fiber strands.

LITERATURE ORDER CODE: FS31R-7PC-01-0909v1