

Y-Split



4...15 GHz (IDU + ODU)
 COMPACT "SPLIT"
 CONFIGURATION

"COLD" START FROM -60 °C
 ARCTIC EXECUTION

LIGHTNING PROTECTION
 OPTICAL CABLE ODU-IDU

CAPACITY UP TO 1.8 Gbps
 RESERVE / AGGREGATION
 UP TO 4 TRUNKS

INTERFACES
4 × GE + 96 × E1 + 4 × STM-1

TRANSPARENT
 TRANSMISSION
 L2 SWITCHING

Y-Split is a universal solution for building high-speed multi-trunk multi-span radio relay communication lines of various lengths.

Compact split-mount solution with outdoor transceiver minimizes initial costs of a network set-up. Optical reduction cable provides a full lightning protection of "lower" equipment and eliminates EMC problems with feeders of other radio systems.

The support of transparent (without encapsulations) hybrid traffic transmission allows for smooth passage from traditional PDH / SDH networks to modern Gigabit Ethernet networks. The built-in flow switch allows to form up to 4 group streams in any combination: packet (up to 4 × GE), synchronous (up to 4 × STM-1) and plesiochronous (up to 96 × E1) traffic.

Dedicated control and service channels are always transmitted at QPSK modulation and have higher power compared to the payload transport channel. To protect local and network parameters against accidental or unauthorized access, Y-Split uses a hierarchical password system: station, network, and temporary password (for routine or repair / restoration work).

SPECIFICATIONS

| Band name | 4 | 5 | 6 | 6.5 | 7 | 8 | 11 | 13 | 15 |
|--------------------------------|---|---------------|-------------------|------------------|-----------------|---------------|-----------------|-------------------|------------------|
| Frequencies, GHz | 3.7... 4.2 | 4.4... 5.0 | 5.925... 6.425 | 6.425... 7.11 | 7.25... 7.55 | 7.9... 8.4 | 10.7... 11.7 | 12.75... 13.25 | 14.5... 15.35 |
| ITU-R recommendation | F.382 | F.746 | F.383 | F.384 | F.385 | F.386 | F.387 | F.497 | F.636 |
| Duplex spacing, MHz | 266 | 312 | 266 | 340 | 161 | 266 | 530 | 266 | 420 |
| Frequency tuning | programmed, in an RF filter band with 250 kHz step | | | | | | | | |
| System configuration | trunk redundancy: 1 + 0 / 1 + 1 / 2 + 0 / 3 + 1 / 2 × (1 + 1) / 4 + 0 trunk configuration: ACCP ¹ / ACAP ² / CCDP ³ (XPIC) ⁴ | | | | | | | | |
| Radio channel protection | FD — frequency diversity; SDR — spatial diversity reception per trunk | | | | | | | | |
| Traffic redundancy | full — in accordance with system configuration; partial (PRT) — protected traffic is transmitted according to N+1 scheme, unprotected traffic — to N+0 by backup trunks | | | | | | | | |
| Interface | up to 4 × Gigabit Ethernet (SFP), 4 × STM-1 (SFP), 96 × E1, 4 × Fast Ethernet | | | | | | | | |
| Service channels | 2 × Fast Ethernet (2 × 250 / 1 × 500 kbps), service line (FXS) | | | | | | | | |
| Network monitoring and control | Master M special software, web utility Fluto, integration with NMS/OSS (option) | | | | | | | | |
| Control protocol (interface) | NP — native protocol (Fast Ethernet, USB), SNMPv2c (Ethernet) | | | | | | | | |

Maximum output power, dBm

| Band name | 4...11 | 13 / 15 |
|-----------|--------|---------|
| 16QAM | +28 | +27 |
| 32QAM | +27 | +26 |
| 64QAM | +26 | +25 |
| 128QAM | +25 | +24 |
| 256QAM | +24 | +23 |
| 512QAM | +23 | +22 |
| 1024QAM | +23 | +22 |

Power adjustment range 0...-25 dB, 1 dB step, manual/ATPC

Capacity, Mbps

| Bandwidth, MHz | 28 | 40 | 56 | 80 |
|----------------|-------|-------|-------|-------|
| 16QAM | 89.6 | 128.0 | 156.8 | 256.0 |
| 32QAM | 112.0 | 160.0 | 224.0 | 320.0 |
| 64QAM | 134.4 | 192.0 | 268.8 | 384.0 |
| 128QAM | 156.8 | 224.0 | 313.6 | 448.0 |
| 256QAM | 179.2 | 256.0 | 358.4 | — |
| 512QAM | 201.6 | 288.0 | 403.2 | — |
| 1024QAM | 224.0 | 320.0 | 448.0 | — |

Rx sensitivity at BER = 10⁻⁶, dBm

| Band name | 4...8 / 13 | | | | 11 | | | | 15 |
|------------------------|------------|-----|-----|-------|-----|-------|-----|-----|------|
| Channel bandwidth, MHz | 28 | 56 | 28 | 40 | 56 | 80 | 28 | 56 | |
| 16QAM | -81 | -78 | -81 | -79.5 | -78 | -76.5 | -80 | -77 | |
| 32QAM | -78 | -75 | -78 | -76.5 | -75 | -73.5 | -77 | -74 | |
| 64QAM | -75 | -72 | -75 | -73.5 | -72 | -70.5 | -74 | -71 | |
| 128QAM | -72 | -69 | -72 | -70.5 | -69 | -67.5 | -71 | -68 | |
| 256QAM | -69 | -66 | -69 | -67.5 | -66 | — | -68 | -65 | |
| 512QAM | -66 | -63 | -66 | -64.5 | -63 | — | -65 | -62 | |
| 1024QAM | -63 | -60 | -63 | -61.5 | -60 | — | -62 | -59 | |
| AGC range, dB | | | | | | | | | ≥ 50 |

Other

| | ODU | IDU |
|---------------------------|----------------------------------|--------------------------|
| Operating temperature, °C | -50 (-60)...+50 (arctic version) | +5...+45 |
| Power consumption, W | 70 / 100 (arctic version) | 30 |
| Power voltage, V | -39...-72 | -39...-72 |
| Dimensions, mm | 264 × 370 × 125 | 480 × 44 × 240 (19", 1U) |
| Weight, kg | < 10 | 3 |

¹ ACCP (Adjacent Channel Co-Polarization). — ² ACAP (Adjacent Channel Alternate Polarization). — ³ CCDP (Co-Channel Dual Polarization). — ⁴ XPIC (Cross Polarization Interference Cancellation).