

Comparison between the FWL210 Digital Optical Talk System and the main commercial high performance Optical Talk Sets

The FWL210 is a unique equipment. It bears a wide range of applications, including voice communication between field technicians during installation, testing and maintenance of fiber networks. For this specific application, it finds competitors in the market. Their technical specifications are compared next.

| Specification | Meaning | FiberWork FWL210 | Photom 450 XL | EXFO VCS20A 03BLER | Radiantech FTK-110 |
|---|---------------------------|--|---------------------------------------|--|--|
| Distance range: 1310 nm fiber (1) 1550 nm fiber (2) | Big is better | 133 km / 167 km (3) 160 km / 200 km (3) | 150 km 120 km | 167 km 200 km | 133 km 160 km |
| Dynamic range (1550nm) | Big is better | 40dB / 50dB (3, 4) | 60dB (37.5dB Real) (5) | 50dB | 40dB |
| Communication Technique | | Full Duplex Digital (6) | Full Duplex Analog | Full Duplex | Full Duplex |
| Local Telecom Interface | Yes is better | Yes | No | No | No |
| Remote Telecom Interface | Yes is better | Yes | No | No | No |
| Conference Call Between Field Technicians and Office | Yes is better | Yes | No | No | No |
| Mobile and Satellite Phone Bill Savings | Yes is better | Yes | No | No | No |
| Investment Category | Opex is usually better | Opex or Capex | Capex | Capex | Capex |
| Hands-free Headset | | Yes | Yes | Yes | Yes |
| Hand-set | | Yes | No | No | No |
| Min Quantity of Talk Instruments Required per mobile unit (7) | Less is cheaper | 1 | 2 | 1 | 1 |
| Initial connection success rate (8) | More is better | 100 % | 50 % | 100 % | 100 % |
| Optional Clamp-on Coupler | | Yes | Yes | Yes | Yes |
| 2 KHz Source | Yes is better | Yes | Yes | Yes | Yes |
| 2 KHz Detection | Yes is better | Yes | Yes | Yes | Yes |
| Standard Optical Connector | | Specify one: SC, FC,ST, E2000 | Interchangeable SC, FC, ST, LSA | Specify one: FC, ST, LSA, SC, E2000, | Specify one: FC, SC, ST, D4, SMA, Biconic |
| Power | | Internal NiMH batteries, AC adaptor (90-250V) | Alkaline batteries, AC adaptor | Internal NiMH batteries, AC adaptor | Internal NiMH batteries, AC adaptor |
| Battery Life | Big is better | 12 hrs (9) | 15 hrs | 17 hrs | 10 hrs |
| Dimensions / Weight | | 20 x 11 x 4 cm / 0.5 kg | 17.5 x 6.5 x 3.5cm/ 0.3 kg | 22 x 11 x 5 cm / 0.88 kg | 19.6 x 10 x 4 cm / 0.58 kg |
| Operation Temperature | | 0 to 50 °C | Unspecified | -10 to 50 °C | 0 to 50 °C |
| Storage Temperature | | -10 to 60 °C | Unspecified | -30 to 60 °C | -10 to 60 °C |
| Standard Accessories | | Manual, AC adaptor /charger (90-250V), Built-in rechargeable battery, Carrying case, Head-set | Manual, Carrying case, Headset | Manual, AC adaptor, Carrying case, Headset, Holster, Carry strap | Manual, AC adaptor, Carrying case, Headset |

Disclaimer: This comparison is based on our interpretation of published specifications. No liability is accepted for any inaccuracy. We would be pleased to amend anything found to be inaccurate.

Notes:

1. Typical 1310 nm optimized single-mode fiber, 0.4 dB/km at 1310 nm, 0.3 dB/km at 1550nm
2. Typical 1550 nm optimized single-mode fiber, 0.5 dB/km at 1310 nm, 0.25 dB/km at 1550nm
3. Single fiber version / Dual fiber version
4. Real digital dynamic range
5. This equipment's reach is limited by its 1310nm dynamic range since it uses WDM techniques (60dB in 1310nm is equivalent to a ~37,5dB reach in 1550nm)
6. Real digital communication and signal processing
7. This is the minimum number of talk instruments required to be carried by each work group, to be able to talk to any other workgroup. In the case of A/B type units (like Photom), both types must be carried by each work group unless prior arrangements are made.
8. Following note 3: if two 'A' or two 'B' units happen to get connected, they won't work!
9. Digital systems require more energy for additional digital processing chips (note: 10 hours is greater than usual daily working hours)