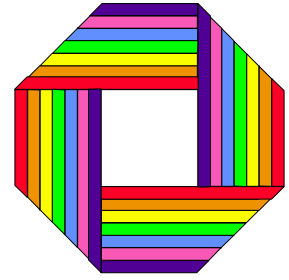


# RADAR CARD TRANSMITTERS AND RECEIVERS

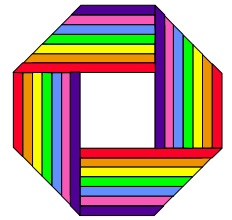


The RADAR CARDS employ optical fibres to transmit signals over distances much longer than possible on co-axial cables without repeaters. The signals may be transmitted up to several km using Light Emitting Diodes. A transmitter with a laser extends the working distance up to 40 km.

Both the transmitters and the receivers have the same type of housing. Up to 12 modules and a Power Supply may be placed in one 3U high sub-rack.

## *Key Features*

- *One channel per card*
- *Low cost units*
- *Short to medium distance transmission*
- *Immunity to Electromagnetic Interference*
- *Light Emitting Diode wavelength 860nm or 1300nm*
- *Laser wavelength 1300nm*
- *Fault indication*
- *Signal state indication*
- *Individually fused modules and power rails*
- *Power Supply fault indication*
- *High reliability*
- *Slim Eurocard Modules wide 30mm high 132mm*
- *Full 3 years warranty*



# Technical Specification

## COMMON TO ALL CARDS

### Electrical Characteristics

Input/output level	5V±20%
Transmission rate	10 Mbits/s
Pulse width distortion	
at 5µw received power and 1MHz	≤ 10%
Rise time	≤ 10ns
Fall time	≤ 10ns
Propagation delay time, excluding fibre, at 5µw received power	50ns approx.
Input return loss	>30dB

### Environmental Specification

Operating temperature	0°C to +50°C
Storage temperature	-20°C to +65°C
Relative humidity (non-condensing)	<95%
MTBF	70,000 hours

### Optical Specification

Light Emitting Diode at 860 nm (50/125 fibre)	-16 dBm
Receiver sensitivity	1µw min.
Power budget	15 dB

### Connectors

Optical fibre connector	ST or SMA
Electrical signal	BNC 75 ohms

### Mechanical Dimensions

Euromodule	6 HP x 160mm x 3U
Sub-rack	482.6mm x 300mm x 3U

### Power Supplies

Euromodule Transmitter	±12 VDC +200mA, -30mA
Receiver	±12 VDC +100mA, -60mA

### Trigger, normal and background video

Input/output impedance	75 ohms
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### Azimuth change pulse and reference pulse

Input/output impedance (twisted pair)	120 ohms
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### Part Numbers

Transmitter Card (video)	OPT1000-xx.y.z
Receiver Card (video)	OPT 1010-xx.y.z
Transmitter Card (azimuth)	OPT1020-xx.y.z
Receiver Card (azimuth)	OPT 1030-xx.y.z

where

- xx specifies the wavelength xx= 86 for 860 nm and 13 for 1300 nm
- y specifies connectors y=SMA or ST
- z specifies the fibre size z=1 50/125, z=2 62.5/125

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