

EAST COAST SIGNALS APPROVED FOR SUBMITTAL 11-4-16

ONLY the TOMAR 2140 Optical Signal Processor offers the following features:

- **Modular construction** allows tool-less field repair and firmware upgrades. Competitive products must be returned to the factory for repair.
- **Plug and Play firmware** allows the adding of preemption channels or other accessories in the field without manual configuration. You buy only what is needed today and add more capability later, saving precious funds.
- **Active Reflection Suppression** prevents cross street preemption due to reflected emitter energy. Only TOMAR's advanced, digital signal processing can eliminate this troublesome side effect, making system installation and set up far less critical.
- **Expansion port** for easy connection of the 2140 to other accessory modules like green phase monitors, confirmation light drivers, and external preemption adapters for controllers that do not have internal preemption software.
- **Preemption channel disconnect switches** allow the preemption outputs from the 2140 to be physically disconnected from the controller inputs during setup and test. Traffic technicians can perform all system setup without disrupting traffic flow with system tests.

Specifications for OSP Card

Item	Description
Signal Coding	The 2140 shall be capable of receiving, decoding, and prioritizing the Emergency and Transit signals transmitted by TOMAR 2060 identifying emitters. The system shall be software configurable to accept or reject older non-identifying optical signals.
Signal Acquisition Time	Typical signal acquisition time shall be approximately 2.5 seconds. Acquisition time will vary depending upon the number of identification codes present simultaneously and on the density of optical noise.
Simultaneous Signals	Each channel module shall be capable of receiving and decoding up to 10 coded signals simultaneously. Additional simultaneous signals will be ignored.
Range	2500 feet maximum adjustable down to 200 feet in 255 steps for each signal band.
Range Adjustment	Range adjustment shall be accomplished via front panel switches and emitter or via serial port command.
Maximum Number of Codes	There shall be at least 65,000 unique identification codes available in each signal band.
Priority Determination	The 2140 shall be delivered with default priority grouping, responding on a first-come, first-serve basis to signals within each signal band. Signals in the Emergency signal band shall be given priority over signals in the Transit signal band. Optionally, the user shall be able to define additional priority classes within each signal band. Up to 16 priority groups within each signal band may be defined.
Event Logging	The system shall log all valid signal receipts along with the time, date, and duration of receipt. The logging capacity of the card shall be a minimum of 1300 events. The oldest events shall be discarded when newer events are received. The number of events to be stored shall be expandable by adding additional memory. The stored logs shall be downloadable via RS-232 port. The 2140's operating system shall allow connection to a controller, a local computer, or a modem.
Output Signals	The 2140 shall provide four optically isolated output channels for placing calls on the traffic controllers preempt inputs. All output signals shall comply with NEMA signal level definitions.
Control Timers	Each channel shall be equipped with 3 control timers described as: MAX CALL: Sets the maximum time a preempt call is allowed to be active. CALL EXTENSION: Sets the time a call is held after the optical signal terminates. CALL DELAY: Sets the time a call must be pending before the assertion of the call to the controller.
Electrical Requirements	120VAC 50/60 Hz
Temperature Range	-40 degrees Celsius to +75 degrees Celsius
Transient Protection	Input power is MOV protected from line transients.
Fusing	Input power connections are fused at 1/2 amp to prevent cabinet wiring damage in the event of an electrical failure.

Specifications for 1881 Card Cage and Harness

Item	Description
Mechanical	Height 5.80" (147.3mm) Length 8.06" (204.7mm) Width 2.90" (73.7mm)
Mounting	The 1881 can sit on mounting feet atop a shelf or can be hung, using the mounting holes in the top flange, under a shelf.
Construction	Anodized aluminum with upper mounting flange and lower mounting feet. Open frame with single 22/44 card edge connector and 60" long controller and detector terminal block cables.