

## OPV Series II Connection to Areva P591 (G-703)

### Description

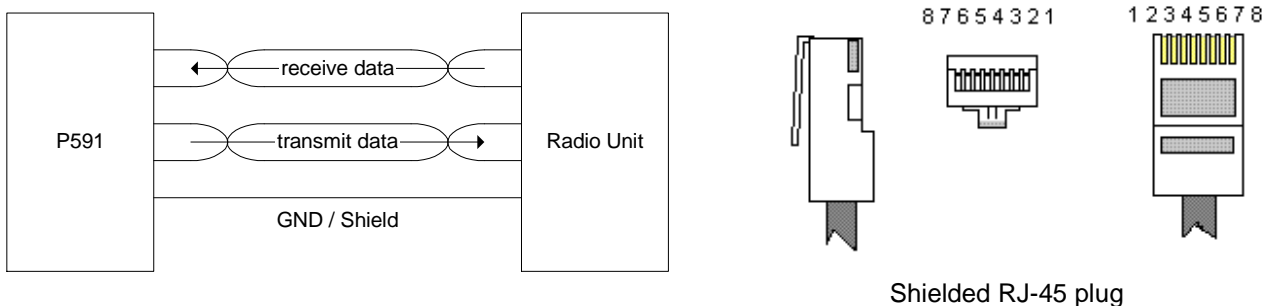
The OPV Series II Radio Unit incorporates a G.703 compatible interface that is able to communicate with the Areva P591 line interface unit. This application note outlines what is required.

The implementation is of the 64 kbps co-directional interface where data and timing (bit and byte) are embedded in a 256kHz symbol stream as defined by ITU-T REC G.703 (4.2.1.1). Provided byte timing is preserved end to end by the Radio Units.

Latency through the system at the radio interface is better than 6 ms (typically 5.5 ms) while asymmetry is better than 250 us (typically better than 125 us).

### Serial Cable Wiring

The recommended cable is shielded twisted pair similar to Belden 1868E fitted with a shielded RJ-45 plug.



The following table outlines the required connections.

P591			OPV SII		
Termination (ohm)	Signal	Screw Terminal	Pin – RJ45 (male)	Signal	In / Out
none	Tx Data +	3	2	Tx Data A	I
	Tx Data -	4	1	Tx Data B	
N/A			6	GND	N/A
			3	GND	
none	Rx Data +	7	5	Rx Data A	O
	Rx Data -	8	4	Rx Data B	
			8	N/C	N/A
			7	N/C	
N/A	Chassis GND	1	Body	Shield / GND	N/A

**Cable Termination:** Although operation will not normally be prevented if the connecting cable is incorrectly terminated at the user equipment end, proper termination is strongly advised. As well as ensuring maximum signal integrity over longer cables, correct termination is necessary to ensure that compliance with CISPR22/EN55022 EMC standards is maintained. When connecting to the P591 no additional termination is required.

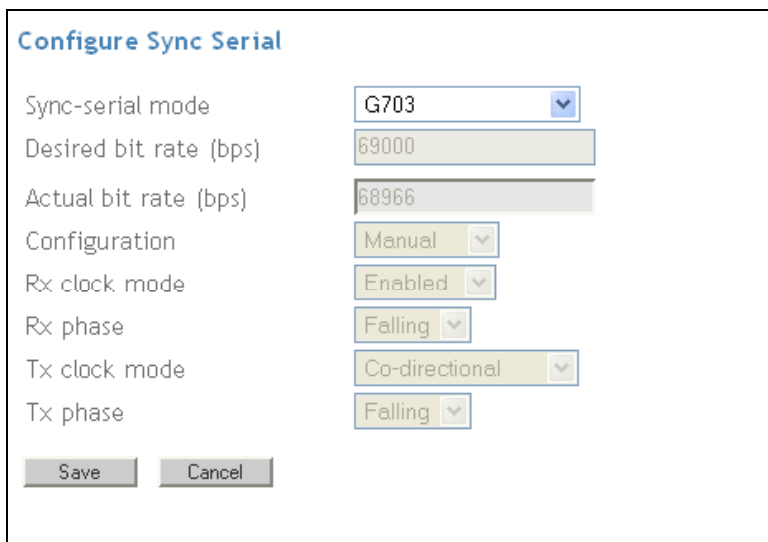
**Grounding:** The Synchronous Serial drive circuitry and it’s ground are isolated from chassis ground (to 1500 VRMS) by means of opto-couplers and transformers. This is intended to prevent the possibility of ground loops. Therefore grounding at the user equipment (P591) is required to prevent the shield and connected Synchronous Serial ground from floating.

### Radio Unit Configuration

Following are the CCMS settings required. NOTE: Only those relative to G.703 configuration are shown. Having selected G703 no other fields are available.

<b>End A / End B</b>	
CCMS – Mode Select	G703

The following image is from the radio’s web page showing the application of the Sync Serial settings (Access is through the ‘Sync Serial’ tab).



### P591 Configuration

No configuration options are available on the P591 Interface Unit.