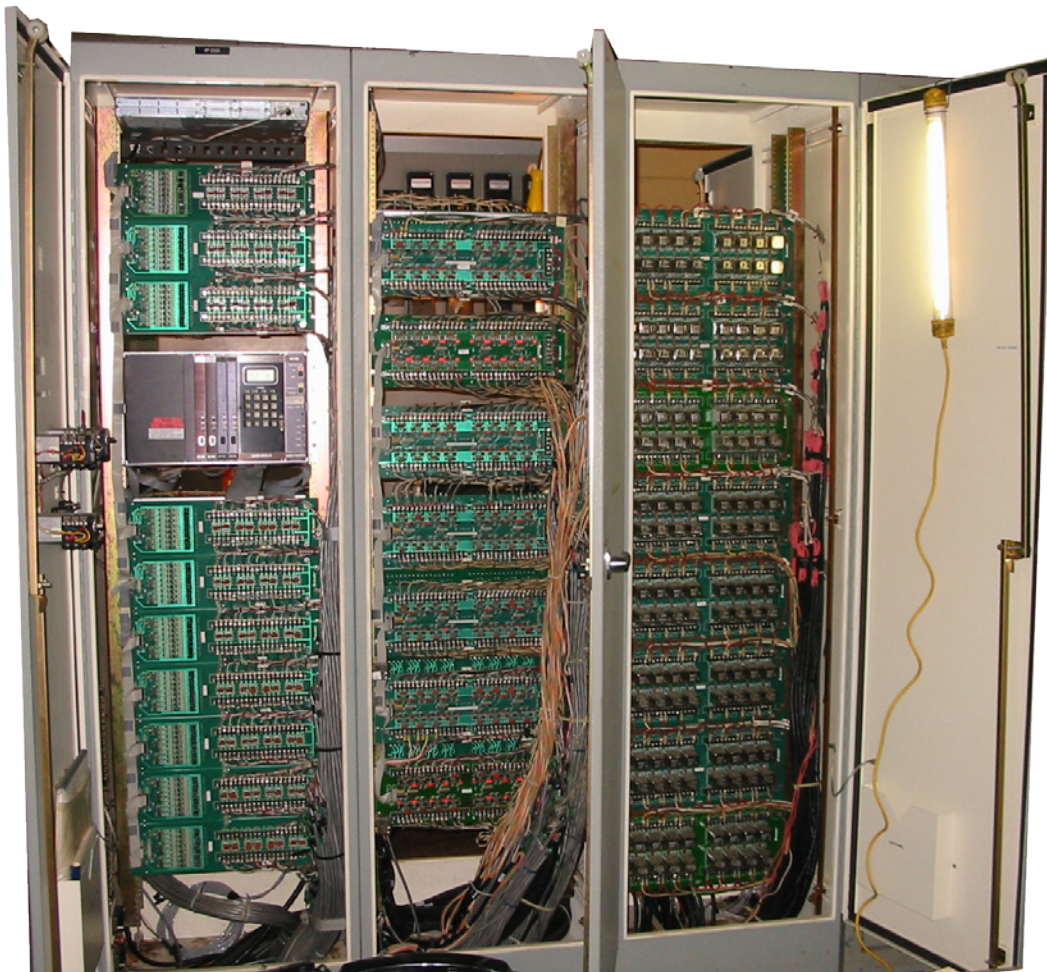


# RTU Retrofits

Want more from your legacy RTUs?



Make the most of your energy<sup>SM</sup>

**Schneider**  
Electric<sup>™</sup>

## RTU Retrofits

Many utilities have substation RTUs still in service that were installed in the 1970's and 80's. These RTUs are no longer supported by the manufacturers and parts are either cannibalized from other installations or non-existent.

Although still providing traditional monitoring and control functions, they cannot interface with new intelligent electronic devices (IEDs), and cannot support the newer master station protocols like DNP. Operations and maintenance personnel need a cost effective solution that will offer improved functionality.

### The solution

Schneider Electric has many years of experience offering custom designed retrofit solutions that provide the needed improved functionality while minimizing the field installation and commissioning time required for the change out of equipment.

Each retrofit RTU is specifically designed to make use of as much of the existing equipment as possible. Special interface cards are delivered to connect to the existing termination boards. Terminations are left in place, eliminating the need for field personnel to buzz-out field wiring.

New functionality is provided by the SAGE intelligent terminal unit (ITU). Integration with newer IEDS can be achieved using DNP, Modbus, or one of the many IED protocols supplied with every new SAGE ITU.

Many legacy master station protocols exist for interfacing with the legacy SCADA master station. Utilizing the SAGE web-based configuration tool, point mapping back to the master can remain unchanged, allowing for the retrofitting of the substation equipment without any change to the master station database.

New functionality is now also available for use within the substation. PLC logic capability is provided for the development of substation specific applications like bus transfer, load shed, or voltage reduction schemes. Specialized volt-VAR control algorithms can be implemented for capacitor bank control. And additional data can be captured that was not possible with the legacy equipment.



Each retrofit RTU is specifically designed to make use of as much of the existing equipment as possible.

### Benefits

- Lower hardware cost (retain cabinet and existing termination boards)
- Reduced field labor over removing and replacing (change out in less than a day)
- Reduced errors (no change to field wiring)
- Reduced engineering (virtually no drawing changes)
- Removal of high maintenance hardware
- No changes to master station database
- New state-of-the-art equipment provides added functionality for integration of IEDS and development of automated systems

### Sample of available Retrofit solutions

Tejas—CamDac	CDC 44-500
Tejas—LanDac	CDC 44-550
Valmet Micro 1/C	Harris 5000
Westinghouse Redac	L&G 8000/9000
GE GEtac	Tasnet

Others can be provided upon request.

### Retrofit process

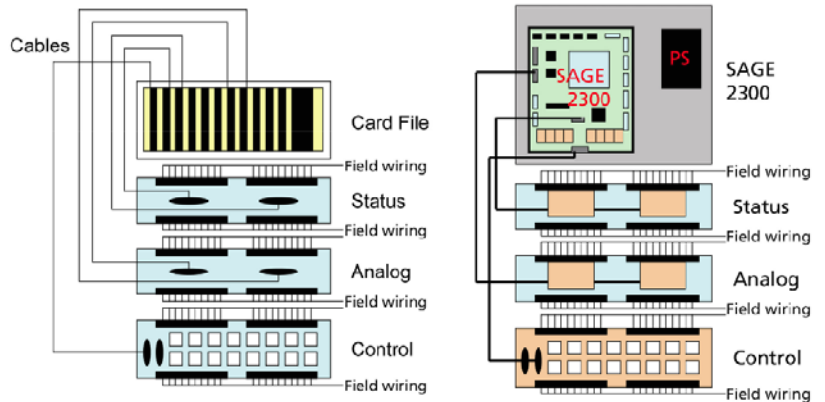
- Main processor board(s) are removed
- All cabling is removed to termination boards
- New SAGE main board is installed
- New interface card and cabling is installed to old termination board
- In some cases, new control cards may be required
- All field wiring is retained and untouched

### Available master station protocols

DNP 3.0	CDC Type I and II
Valmet Series III, V	Harris 5000
L&N C2020	Harris 5500
L&N C3000	Harris 6000
L&N C300	Ferrnati Van Comm
L&N C2 100 H	SES 92
Modbus RTU	L&G 8979

### Typical Cost Savings

	Replace	Retrofit
H/W cost	\$30,000	\$24,000
Field Labor 5 Day	\$10,000	
Field Labor 1 Day		\$2,000
Engineering	\$5,000	\$1,000
Total	\$45,000	\$27,000
Net Savings = \$18,000 or 40%		



Typical legacy RTU before retrofitting (left), Typical legacy RTU before retrofitting (right).

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