



SUNNY SV100 Series - UHF Optical Line Amplifier

Model : SV100-F1'F2/F3'F4-MU/RU-P

Where

P: Downlink Max. Output power 37, 40, 43dBm

F1-F2 and F3-F4 are within 110-175MHz

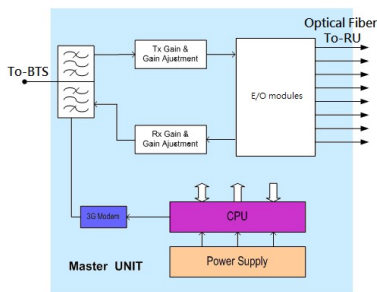
F1-F2 and F3-F4 is 0.2 to 5MHz

F3 minus F2 \geq 5MHz

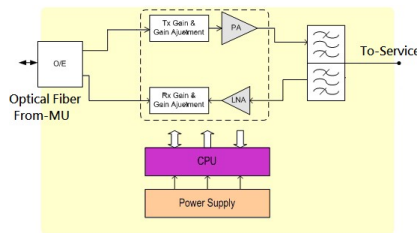
Product Highlight

- Support VHF frequency range
- Simple plug and play design
- ETSI and HKTA 1002 Compliance
- Option remote control by Ethernet or RF modem
- Option Rack cabinet

System Block Diagram



Master Unit (MU)



Remote Unit (RU)

System Outlook



Master Unit (MU)



Rack mount

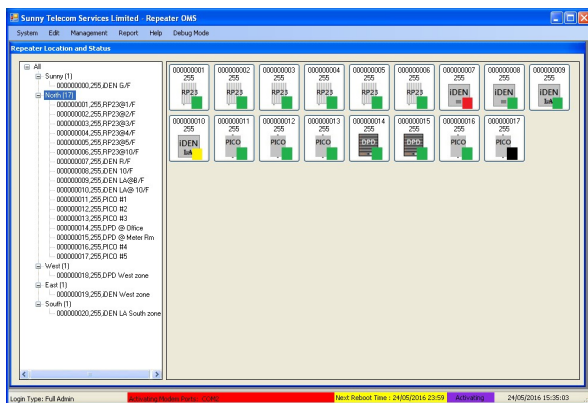


Wall mount

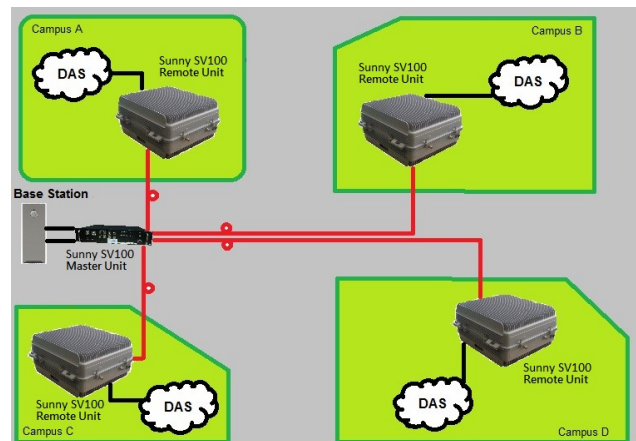
Remote Unit (RU)

Remote Software

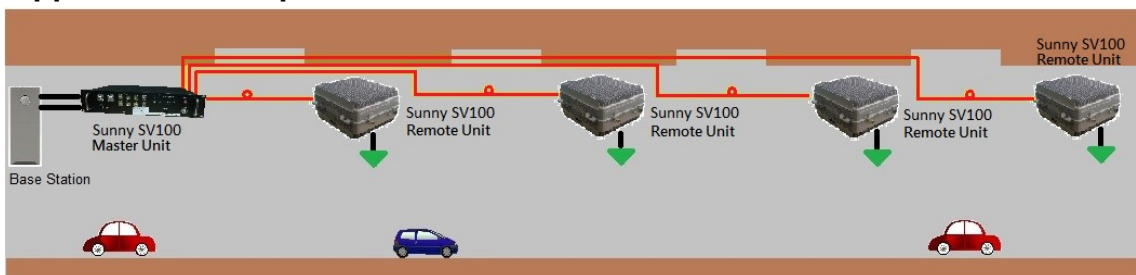
SUN-OMS:



Application Example



Application Example





MU Electrical Specifications

Items	Uplink	Downlink
Working Frequency	110-175MHz	110-175MHz
RF Output Level	-5±1.5dBm	/
Max. RF input without damage	/	≤ 0dBm
Input Sensitivity	/	≥ -45dBm
VSWR	≤1.5	
Compliance	EN 301 489, EN 60950, EN 50385, EN 300 086, EN 302 561, HKCA1002	

MU Optical Specifications

Items	Uplink	Downlink
Total Optical Output Power	/	0±3dBm
Optical Max. Input power	+4dBm	/
Optical Min. Input power	-15dBm	/
Optical wavelength	1310nm	1550nm
Optical Loss	≤10dB (includes the loss of the optical splitter)	
Optical Connector	FC/PC	
Number of Optical Ports	8 Max	

MU Power Supply and Mechanical Specifications

RF Connector	N-Female, 50ohm*
Operating Temperature	-5~+45°C
Operating Humidity	≤85%
MTBF	≥100000 hours
Power Supply	AC220V±60V,45~55Hz OR -48V DC (option SV100-DC)
Max. Power Consumption	≤50W
Heat Dissipation	≤40W
Cabinet Environment Rating	IP20
Remote Control Module	RS232/USB (Standard) Wireless Modem (option SV100-RFM, SV100-WD) Ethernet (option SV100-ETH)
Alarm Type	No Power, Over Temperature, RU Failed
Dimension	2U (19" rack mount, 500mm depth)
Weight	10kg

RU Electrical Specifications

Items	Uplink	Downlink
Working Frequency	F1-F2MHz (within 110-175MHz)	F3-F4MHz (within 110-175MHz)
Bandwidth	≤5MHz	≤5MHz
Guardband (F3 minus F2)	≥5MHz	≥5MHz
Max. Output Power	/	37±1.5dBm 40±1.5dBm 43±1.5dBm
Max. Gain	53±3dB	55±3dB
Max. Input without damage	≤-10dBm	/
Input Sensitivity	≥-120dBm	/
Noise Figure	≤5dB	/
Gain Adjustable Range	≥25dB@1dB/step	
Frequency Error	±1kHz	
Frequency Deviation	±2.5kHz	
Adjacent channel power [^]	≤60dBc	
Alternate channel power [^]	≤70dBc	
Spurious Emissions	≤ -36dBm@9kHz to 1GHz ≤ -30dBm@1GHz to 12.75GHz	
Time Delay	≤1us	
ALC	△Po±1 dBm	
VSWR	≤1.5	
Compliance	EN 301 489, EN 60950, EN 50385, EN 300 086, EN 302 561, HKCA1002	



RU Optical Specifications

Items	Uplink	Downlink
Optical Output Power	0±3dBm	/
Optical Max. Input power	/	+4dBm
Optical Min. Input power	/	-15dBm
Optical wavelength	1310nm	1550nm
Optical Loss	≤10dB	
Optical Connector	FC/PC	
Numbers Of Optical Ports	1	

RU Power Supply and Mechanical Specifications

RF Connector	N-Female, 50ohm*
Operating Temperature	-25~+55°C
Operating Humidity	≤95%
MTBF	≥100000 hours
Power Supply	230VAC, 50/60Hz OR -48V DC (option SV100-DC)
External Battery	Charging Interface: 27.6V, 2A (option SV100-EB)
Max. Power Consumption	≤220W
Cooling	Natural cooling for wall mount, FAN cooling for rack mount
Heat Dissipation	≤200W for wall mount
Cabinet Environment Rating	IP65 for Wall Mount, IP20 for Rack Mount
Local LED	Power – GREEN, Alarm - RED
Alarm types	No AC Power, Over Temperature, Module Failure, VSWR, Over RF Downlink Power, Low RF Downlink Power, Door Open
Remote Control Module	RS232/USB (Standard) Wireless Modem (option SV100-RFM, SV100-WD) Ethernet (option SV100-ETH)
Dimension	550x440x235mm (wall mount) OR 4U, 19" rack mount, 500mm depth (option: SUN-RACK)
Weight	N.W.33.5kg, G.W.36kg

* User predefine Simplex or Duplex configuration for I/P and O/P ports during ordering stage

^ Measure at offset > ±2 channels (for 25kHz channel bandwidth)

Ordering information:

Model: SV100-F1'F2/F3'F4-MU(Y): SV100-F1'F2/F3'F4-RU-P	1. Confirm Y in MU: how many RUs per MU, max. is 8 2. Confirm uplink/downlink frequency. F1 to F2 and F3 to F4 are within 110-175MHz and ≤5MHz; F3 minus F2 must be ≥5MHz 3. Confirm Maximum Downlink output power (P, dBm): 43, 40, 37
Options	SUN-RACK: Rack mount cabinet with FAN Cooling ¹ SV100-RFM: Sunny Remote Control by RF Modem (SMS) ^{1,2} SV100-WD: Sunny Remote Control by RF Modem (wireless data)(Fixed IP needed) ^{1,2} SV100-ETH: Sunny Remote Control by Ethernet ^{1,2} SV100-TP: With Downlink and Uplink -30dB test ports outside the cabinet SV100-RL: With 2 relay input and 2 relay output as external alarm (dry contact) SV100-DC: Using -48VDC as power supply input SV100-EB: With interface to connect external battery as UPS (auto switch when AC loss) SUN-OMS: Sunny Remote Control Software (Network management software) ¹ need to order together with main unit ² order either option only

Technical data are subjected to change without notice – File: SV100-F1'F2_F3'F4-MU_RU-P datasheet 2021V1.0