



STR400 Series – TETRA Fiber Optic Repeater

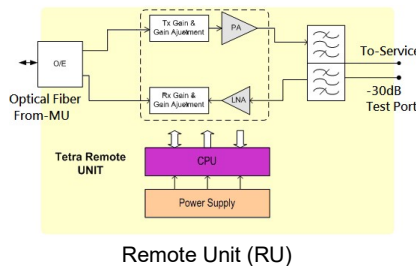
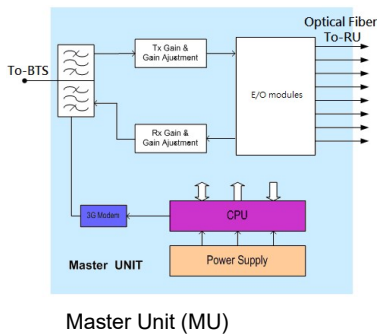
TETRA Fiber Optic Repeater is used to extend the wide coverage site such as campus, tunnel and building. In passive distribution antenna system (DAS). Sunny STR400 Series – TETRA Fiber Optic Repeater, is included with Master Unit (MU) and Remote Units (RU) connected by fiber cable, provides wide range of configurations to address different customer requirement.

Model : STR400-F1'F2/F3'F4-MUx-P, STR400-F1'F2/F3'F4-RU-P

Highlight

- Comply ETSI standard with CE certificate
- Support 380-470MHz
- Support up to 7MHz Bandwidth (Typical 5MHz and 5MHz Guardband)
- Single MU support up to RU x 8
- Optional remote alarm/control/monitoring/statistics by ethernet or sms
- Optional different kinds of redundancy configuration

System Block Diagram

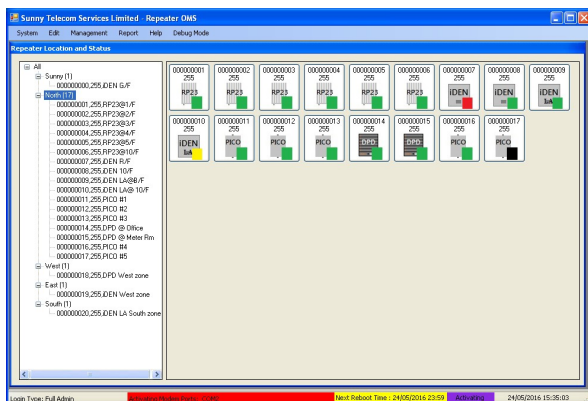


System Outlook

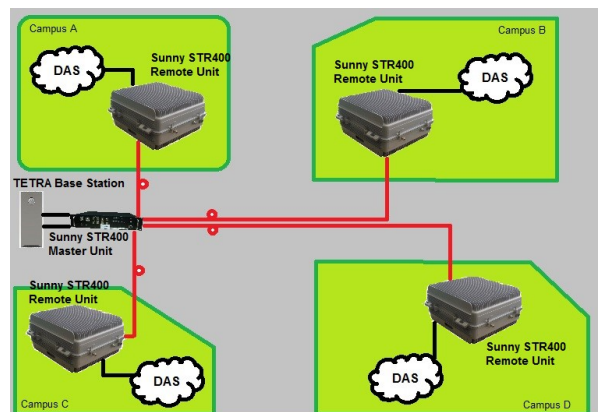


Remote Software

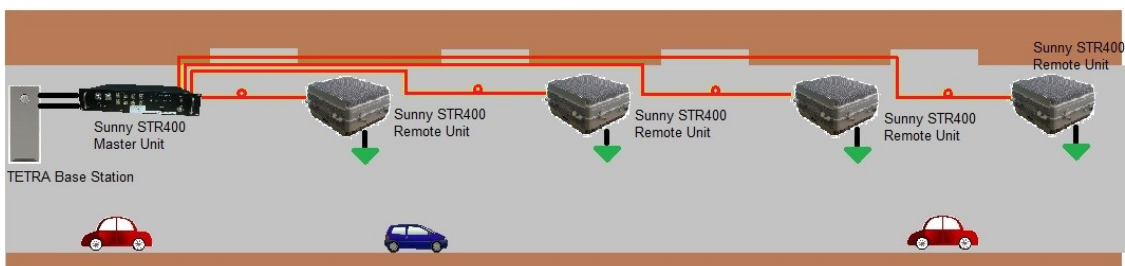
SUN-OMS:



Application Example



Application Example





MU Electrical Specifications

Items	Uplink	Downlink
Frequency Range	F1-F2MHz (within 380-470MHz)	F3-F4MHz (within 380-470MHz)
Bandwidth Range	5MHz (Optional 7MHz)	5MHz (Optional 7MHz)
Guardband (F3 minus F2)	≥3MHz	≥3MHz
RF Output Level	-5±2dBm	/
Dynamic Range	≥60dB	/
Max. RF Input without Damage	/	≤0dBm
Input Sensitivity	/	≥-45dBm
Third Order Intercept	≥+25dBm	/
VSWR	≤1.5	
Compliance	Radio: ETSI TS101 789, EN300 392, EN300 394, EN303 035 EMC: EN301 489, Safety: EN60950, Health: EN 50385	

MU Optical Specifications

Items	Uplink	Downlink
Total Optical Output Power	/	-4~0dBm
Optical Max. Input power	0.5dBm	/
Optical Min. Input power	-14dBm	/
Optical wavelength	1270nm	1330nm
Optical Loss	≤10dB	
Optical Connector	FC/APC (Single Mode Duplex)	
Number of Optical Ports	1-8 (subjected to nos of RUs connected with MU)	

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 STR400-DC)
Max. Power Consumption	≤50W
Heat Dissipation	≤40W
Cabinet Environment Rating	IP20
Remote Control Module	RS232/USB (Standard) Wireless Modem (option STR400-RFM, STR400-WD) Ethernet (option STR400-ETH)
Alarm Type	No AC Power, Over Temperature, Low RF Downlink Power , RU Optical link Failed
Dimension	2U (19" rack mount, 500mm depth)
Weight	10kg

RU Electrical Specifications

Items	Uplink	Downlink
Working Frequency	F1-F2MHz (within 380-470MHz)	F3-F4MHz (within 380-470MHz)
Bandwidth	5MHz (Optional 7MHz)	5MHz (Optional 7MHz)
Guardband (F3 minus F2)	≥3MHz	≥3MHz
Max. Output Power	/	28±2dBm 37±2dBm 40±2dBm 43±2dBm
Max. Gain	53±3dB	55±3dB
Intermodulation attenuation^	/	≤-60dBc
Max. Input without damage	≤ -10dBm	/
Input Sensitivity	≥ -120dBm	/
Noise Figure	≤5dB	/
Gain Adjustable Range	≥25dB@1dB/step	
Time Delay	≤2us	
Ripple	≤2dB	
ALC	△Po±1 dBm	
VSWR	≤1.5	
Compliance	Radio: ETSI TS101 789, EN300 392, EN300 394, EN303 035 EMC: EN301 489, Safety: EN60950, Health: EN 50385	



RU Optical Specifications

Items	Uplink	Downlink
Optical Output Power	-4~0dBm	/
Optical Max. Input power	/	+0.5dBm
Optical Min. Input power	/	-14dBm
Optical wavelength	1270nm	1330nm
Optical Loss	≤10dB	
Optical Connector	FC/APC (Single Mode Duplex)	
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 STR400-DC)
Max. Power Consumption	≤200W
Cooling	Natural cooling for wall mount, FAN cooling for rack mount
Heat Dissipation	≤170W 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 (not applied for STR400-RACK)
Remote Control Module	RS232/USB (Standard) Wireless Modem (option STR400-RFM, STR400-WD) Ethernet (option STR400-ETH)
Dimension	550x440x235mm (wall mount) OR 4U, 19" rack mount, 500mm depth (option: STR400-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

^ Testing assume minimum network spacing ≥800kHz for maximum power 43/40/37dBm, ≥200kHz for maximum power 28dBm

Ordering Information:

Model: STR400-F1'F2/F3'F4-MUx-P STR400-F1'F2/F3'F4-RU-P	1. Confirm x in MU: how many RU will be connect to each MU and typically is 4 or 8 2. Confirm uplink/downlink frequency. F1 to F2 and F3 to F4 are within 380-470MHz and typically 5MHz (Optional ≤7MHz); F3 minus F2 must be ≥3MHz 3. Confirm Maximum Downlink output power (P, dBm): 43, 40, 37 or 28
Options	STR400-RFM: Sunny Remote Control by RF Modem (SMS) ¹ STR400-WD: Sunny Remote Control by RF Modem (wireless data) ¹ (Fixed IP needed) STR400-ETH: Sunny Remote Control by Ethernet ¹ SUN-QMS: Sunny Remote Control Software (Network management software) STR400-TP: With Downlink and Uplink -30dB test ports outside the cabinet STR400-RL: With 2 relay input and 2 relay output as external alarm (dry contact) STR400-UPS: Sunny Uninterruptible Power Supply STR400-DC: Using -48VDC as power supply input STR400-RACK: Rack mount cabinet with FAN cooling STR400-RU-HSPSU: Sunny Hot Standby Power Supply Unit for RU STR400-RU-HSRU: Sunny Hot Standby RF Module Unit for RU STR400-RU-HSWU: Sunny Hot Standby RU Whole Unit STR400-RU-HSFR: Sunny Hot Standby Fiber for RU Redundancy STR400-MU-HSPSU: Sunny Hot Standby Power Supply Unit for MU STR400-MU-HSOM: Sunny Hot Standby Optical Module Unit for MU STR400-MU-HSRU: Sunny Hot Standby RF Module Unit for MU, Note: Size will change to 4U (19" rack mount, 500mm depth) STR400-MU-HSWU: Sunny Hot Standby Whole MU Unit ¹ order either option only

Technical data are subjected to change without notice – File: STR400-F1'F2/F3'F4-MU/RU-P datasheet 2021V1.2