

SunSet® E20/E20c

The SunSet E20/E20c offers exceptional 2M testing features, including full duplex drop and insert testing, international ITU measurements, DTE and DCE datacom emulation, and multiplexer testing. With its full transmission and service test features, the flexible SunSet E20 offers an unparalleled set of testing capabilities, as it is designed to test a variety of networks, including Frame Relay, Cellular, Switching, Access, and simple Leased Line Networks. The SunSet E20, in its handheld platform, can troubleshoot and locate almost any problem to optimize your technicians' time and reduce the cost of network downtime with this versatile test set.

FEATURES

- 2 Rx & 2 Tx, Bidirectional Monitor, Dual BERT
- G.821, G.826, M.2100, Alarms, Histograms,
- Protocols and Service Test: VF, ISDN, SS7, MFC-R2, GSM/GPRS, V.5x, X.25, and Frame Relay
- Jitter Measurement and Generation

SPECIFICATIONS

Connectors/Ports

2.048 Mbit/s bidirectional E1 interfaces
 Line 1 Tx, Line 1 Rx, Line 2 Rx: 75Ω unbalanced BNC (f)
 and 120Ω balanced/3-pin banana (CF)
 Line 2 Tx: 75Ω unbalanced BNC (f)
 Serial port: 8-DIN, RS-232C (V.24), DTE
 Datacom interface: SCSI-36 pin connector
 DC input for charging internal battery
 Stereo headphones port
 Connector: 3.5 mm jack
 Impedance: 220Ω

Status/Alarm Indicators

Power and low battery LED indicators
 16 dual-color LED indicators for Line 1 and Line 2
 Current status & alarm history for: Signal, code error, PCM-30, PCM-31, AIS, alarm, CRC detected, error
 6 dual-color LED indicators for datacom (dual function with Line 2)
 Pattern Sync and bit error LED indicators

Test Pattern Generator

General: All 1s, All 0s, Alt 1010, 1-in-4, 1-in-8, 3-in-24, FOX
 PRBS: 2^n-1 , $n=6, 7, 9, 11, 15, 20, 23$; QRS, $2^{20}-1$ ITU-T
 Conforms to ITU-T O.151, O.152, O.153
 Programmable: 10 user patterns, 24 bits long with user definable labels
 Selectable test pattern inversion
 Automatic pattern synchronization

Error/Alarm Injection

Code and/or bit error, and frame error; programmable burst of 1 to 9999 error manually, or continuous rate of 2×10^{-3} to 1×10^{-9}
 CRC-4, FAS, E-bit: Single error
 Generate AIS, TS16-AIS (PCM-30), MFAS RAI (PCM-30), FAS RAI (PCM-30 & 31) alarms

E1 General

Bit error test rates: 2.048 Mbit/s, N (contiguous) and M (noncontiguous) x 64 kbit/s (N and M = 1 to 31)
 Full duplex drop & insert to internal test circuitry, datacom interface, Nx64 kbit/s test pattern; or 64 kbit/s A-law decoded and encoded VF channel to/from built-in speaker or optional headphones (SS149)/microphone
 Automatic configuration, Automatic Pattern Sync.
 Line coding: HDB3, AMI
 Framing: Unframed, PCM-30, PCM-31, with or without CRC-4, conforms to ITU-T G.704
 Programmable send frame words: Manual/auto E-bits, MFAS word bit 5, bit 6 (MFAS RAI), bit 7, bit 8, MFAS ABCD, FAS RAI, display & print, send and receive FAS/NFAS and MFAS/NMFAS words, auto CRC-4 generation, freely settable Sa4, Sa5, Sa6, Sa7, Sa8, bits to 1 or 0 for 8 frames
 Set idle channel code and ABCD bits (PCM-30)
 V.54 channel loopback: Loop up, loop down according to ITU-T V.54 and T1 E1.2/94-003 standards

E1 Transmitters

Clock source
 Internal: 2.048 MHz (± 5 ppm). L1 Tx frequency adjustable over ± 50 kHz (± 25 kppm) with resolution 1 Hz (individually adjustable)
 External: Through Line 1 Rx or Line 2 Rx, selectable AMI, HDB3, or Sinusoidal TTL clock (Line 2 only)



SunSet E20
monochrome
chassis

SunSet E20c
color chassis

SunSet® E20/E20c

Loop: Recovered through Line 1 Rx or Line 2 Rx signal, selectable AMI or HDB3
Pulse shape: 3.0 Vbp ($\pm 10\%$) at 120 Ω , 2.37 Vbp ($\pm 10\%$) at 75 Ω .
Conforms to ITU-T G.703.

E1 Receivers

Frequency: 2.048 Mbit/s \pm 6000 bit/s
Input sensitivity
Terminate, Bridge: +6 to -43 dB with ALBO
Monitor: -15 to -30 dB resistive
Impedances
Terminate, Monitor: Line 1 and 2, 75 Ω unbalanced, 120 Ω balanced Bridge
Jitter tolerance: Conforms to ITU-T G.823

Measurements

Error Type: Code, bit, CRC-4, FE, MFE, E-bit errors, slips
Typical error type reports: Error count, error rate, ES, %ES, SES, %SES, UAS, %UAS, EFS, %EFS, AS, %AS
ITU-T G.821 Analysis, error type reports: Bit error & rate, ES, %ES, SES, %SES, EFS, %EFS, UAS, %UAS, AS, %AS, SLIP, DGRM, %DGRM
ITU-T G.826 bidirectional analysis, CRC-4 block based; error type reports: EB, BBE, %BBE, ES, %ES, SES, %SES, UAS, %UAS, EFS, %EFS
ITU-T M.2100/550 analysis
Alarm statistics: LOS sec, LOF sec, AIS sec, FAS RAI sec, MFAS RAI sec
Frequency (Max hold, Min hold, Current), clock slips, wander
Signal level +5 to -36 dB
Print on event (Enable/Disable)
Print/save at timed interval (selectable up to 999 hr, 59 min) or at end of test
Measurement duration continuous or timed; settable up to 999 hr, 59 min
Programmable measurement with selection of start TIME & DATE

Other Measurements

Pulse mask analysis
Scan period, 500 ns
On screen pulse shape display with G.703 pulse mask verification
– Displays pulse width, rise time & fall time in ns, %overshoot, %undershoot
– Pulse mask storage and printing
Histogram analysis
Graphical display of accumulated errors (Bit, Code, E-bit, CRC, FAS/MFAS) events for L1 Rx or L2 Rx and alarms (LOS, AIS, LOF, FAS RAI, MFAS RAI, LOPS) events for L1 Rx and L2 Rx
Stores and prints 60 days by hour and 24 hours by minute
Storage of one complete histogram and current (base unit)
Storage of up to 15 histogram with user definable labels (requires SA701)
Propagation delay
Measures propagation delay in microseconds & UIs (Unit Interval)
Maximum delay measurement (at 2.048 Mbit/s): 8 seconds
View received data
View live traffic 4096 bits long (16 full frames/one multiframe) in PCM-30/31
Displays 8 timeslots per screen
Stores 64 scrollable screens, hold screen, print
Information displayed in ASCII, reverse ASCII, Binary, and HEX
View timeslot 16 (MFAS, NMFAS ABCD) in PCM-30: 16 Frames

View timeslot 0 (FAS, NFAS, CRC, MFAS/CRC words, E-bits Sa4 to Sa8, A-bit) in PCM-30 and PCM-31: 16 Frames
Save test results of measurement runs, error and alarms events
Save up to 20 test results
Save up to 1000 events
Saved record can be locked
Simultaneously view bidirectional ABCD bits for 30 channels (PCM-30)
Jitter generation & measurement (SSE20c only): Refer to Jitter Option specification sheet

E1 Voice Frequency

Companding: A-Law
View channel data 1 byte long (binary format)
Built-in microphone for talk
Monitor speaker or optional headphones (SS149) for line 1, 2, or both with volume control
Signal-to-noise ratio measurement
Noise measurements with 3.1 kHz flat, psophometric weighting, 1010 Hz notch filters
Tone generation: 50 to 3950 Hz, res. 1 Hz; +3 to -60 dBmO, res. 1 dB
Level and frequency measurement: 50 to 3950 Hz, +3 to -60 dBmO
Coder offset and peak code measurements
ABCD bits monitor & transmit in selected channel (PCM-30)
Programmable ABCD states for IDLE, SEIZE, SEIZE ACK, ANSWER, CLEAR BACK, CLEAR FORWARD, BLOCK ABCD; Default (Conforms to Q.422) or 3 user defined setups
Labelling setup and display of Group I/II Forward, Group A/B Backward digits Q.441 or 3 user defined setups

Datcom Testing (SS600)

Connectors/Ports
Datcom Multiport via SCSI-36 connector
Adapters for DTE (male) and DCE (female) modes: V.35 (34 pins-ISO 2593), V.11/X.21 (DB15-ISO 4903), V.24/RS-232 (DB25-ISO 2110), V.36/RS-449 (DB37-ISO 4902), RS-530 (DB25-ISO 2110), G.703 codirectional (3-pin CF for Tx and Rx)
Y cable Adapter for MONITOR mode: V.35 (34 pins-ISO 2593), V.11/X.21 (DB15-ISO 4903), V.24/RS-232 (DB25-ISO 2110), V.36/RS-449 (DB37-ISO 4902)
Interfaces: V.35, V.11/X.21, V.24/RS-232, V.36/RS-449, RS-530, G.703 codirectional
Modes
DTE, DCE Emulation for all interfaces
Bidirectional data in service transmission monitoring (V.35, V.11/X.21, V.24/RS-232, V.36/RS-449)
Rates
V.24/RS-232 Asynchronous: 50, 150, 300, and 600 bit/s, 1.2, 2.4, 4.8, 9.6, 14.4, 19.2, and 38.4 kbit/s, 6/7/8 data bits, 1/2 stop bits, odd/even/none parity
V.24/RS-232 Synchronous: 300, 600, 1200, 2400, 4800, 9600 bit/s, 14.4, 19.2, 38.4, 48, 56, and 64 kbit/s
V.35, V.11/X.21, V.36/RS-449: 300, 600, 1200, 2400, 4800, 9600 bit/s, 14.4, 19.2, 38.4, and 48 kbit/s, Nx56 kbit/s, and Nx64 kbit/s (N = 1 to 32)
G.703 codirectional: Nx64 kbit/s (N = 1 to 8)
Tx data clock selectable (internal or receive) for V.35, V.24/RS-232, V.36/RS-449, G.703 codirectional
Clock polarity selectable (normal or inverse) for V.35, V.24/RS-232, V.36/RS-449

Test pattern generator

V.24/RS-232 Asynchronous: 2047, 511, 127, 63, All 1s, All 0s, and FOX (for 7 and 8 data bits)

All other modes: All available patterns supported (refer to the main Test Pattern section)

Selectable test pattern inversion

Automatic pattern synchronization

Bit error injection

Measurements

ITU-T G.821 analysis, error type reports: Bit error count and rate, ES, %ES, SES, %SES, EFS, %EFS, AS, %AS, UAS, %UAS, SLIP

Block error measurement: Received block count, error block count, and rate

Measurement of Data Loss, Data Loss Seconds, Pattern Synchronization Loss, Pattern Synchronization Loss Seconds

Histogram analysis

Graphical display of accumulated errors (Bit, Loss of Pattern Seconds)

Stores and prints 60 days by hour and 24 hours by minute

Storage of one complete histogram and current (base unit)

Storage of up to 15 histograms w/user definable labels (requires SA701)

Propagation delay

Measures propagation delay in microseconds & Uls (Unit Interval)

Maximum delay measurement (at 2.048 Mbit/s): 8 seconds

Datacom timing analysis

Change of state of the following control leads is displayed and recorded (Table or Graphic mode)

– V.24/RS-232 (Asynchronous: DTE, DCE; Synchronous: DTE, DCE, MONITOR), V.35 (DTE, DCE, MONITOR), V.36/RS-449 (DTE, DCE, MONITOR): RTS, CTS, DTR, DCD, RL, LL

– V.11/X.21 (DTE, DCE, MONITOR): C, I

Transmit control leads (selectable ON/OFF)

– V.24/RS-232 (Sync & Async), V.35, V.36/RS-449 (DTE): RTS, DTR, RL, LL

– V.24/RS-232 (Sync & Async), V.35, V.36/RS-449 (DCE): CTS, DSR, DCD

– V.11/X.21 (DTE): C

– V.11/X.21 (DCE): I

Trigger on RTS, CTS, DTR, DSR, DCD, RL, LL; falling or rising edges

Storage capability

– Graphical mode: Last 40 seconds of captured control lead status

– Table mode: 100 pages of control lead state change and status with timestamp

V.110 Testing (SW607)

Conforms to ITU-T V.110

V.110 analysis over E1 line

Test rate: Nx600 bit/s (N=1, 2, 4, 8, 16, 32), 48 kbit/s, 56 kbit/s

Bit error rate testing, V.110 FAS error, V.110 Parity Error, V.110 Frame Sync Loss, V.110 Redundant Bit Error Measurements

V.110 framing status monitoring (Bits, S1, S3, S4, S6, S8, S9, X, E1 to E6)

Bit error and frame error injection

Programmable V.110 framing bits (S1, S3, S4, S6, S8, S9, X, E1 to E6)

Programmable Tx and Rx pattern

Modes: E1 Single (Send/Receive V.110 formatted channels inside 2.048 Mbit/s signal)

X.50 64 kbit/s Testing (SW606)

Conforms to ITU-T X.50 Division 2 and 3

Bit error rate testing with ITU-T G.821 analysis

Test rate: Nx600 bit/s, N = 1 to 8 within 64 kbit/s signal

Hitless bidirectional E1 64 kbit/s channel drop/insert to multipoint

Standard or random selection of octets

View and transmit housekeeping bits A to H, and status S-bit

Programmable idle pattern, BERT & IDLE S-bit, X.50 signal (ABCD bits)

Bit or frame error injection

Histogram analysis

Modes

Datacom (64 kbit/s, X.50 formatted signal)

Muxtest (Test 2.048 Mbit/s/64 kbit/s multiplex)

MUX (Emulate 2.048 Mbit/s/64 kbit/s multiplexed within X.50 format)

E1 (Send/Receive X.50 formatted channels inside 2.048 Mbit/s signal)

C-bit Frame Testing (SW602)

Send and receive C-bits 2 through 15 (ESCAPE, 2 MB loops, loop 2 or loop 3, loop 2 instruction, loop 3 instruction, HDB3 command, loop acknowledge, not defined, local fault, remote/line fault, C frame loss, spare)

Bit level decoding

Loopback channel

Other Options (See Individual Specification Sheets)

Frame Relay Network Options (SW603 and SW603N)

Cellular Network Options (SW604, SW605, SW609, SW644, SW621, SW622, SW629)

Access Network Options (SW610, SW611, SW612, SW613, SW614, SW615, SW630, SW631)

Switching Network Options (SW601A, SW601E, SW640, SW641, SW642, SW645, SW647, SW648)

X.25 Option (SW608)

Jitter Measurement Option (SW691) & Jitter Generation Option (SW692)

GENERAL

512 kbyte internal NVRAM data buffer

Internal Battery: 9-cell NiMH battery pack

Battery operation time: 4.5 hours nominal (for SSE20)

16 lines x 32 character graphic LCD with backlight (for SSE20)

240 x 320 dot STN Color Screen CFL Backlight (for SSE20C)

Heavy-duty long-lasting keyboard

8 Mbyte field upgradable PCMCIA memory card

2nd memory card slot for future expansion or unit memory storage (Histogram and Protocol traces - requires SA701)

AC Adapter/battery charger: 100-240V 50/60 Hz

Languages: English, French, Italian, Spanish

Stores up to 10 user configurations (profiles) with alphanumeric labels

VT100 Remote Control (for SSE20 only)

Windows Remote Control and Remote Storage

TL1 Command Support

Printer/communication port: 8-DIN, RS-232 (V.24 DTE) serial port

Text: Standard ASCII escape sequence code

Graphics: Standard mode (dot matrix)

Operating temperature: 0°C to 50°C

Storage temperature: -20°C to 70°C

Humidity: 5% to 90% noncondensing

Size: 10.5 cm x 6.5 cm x 27 cm (approx)

Weight: 1.3 kg (approx)

ORDERING INFORMATION

Test Set

SSE20	SunSet E20 Black & White Configured with 2 Rx and 2 Tx 2.048 Mbps ports with BNC (f) & 3-pin banana (CF) connectors. CE Compliant.
SSE20C	SunSet E20c Color Screen Configured with 2 Rx and 2 Tx 2.048 Mbps ports with BNC (f) & 3-pin banana (CF) connectors. CE Compliant.
SSE20FR	Replace all standard labels (LED & Keypad) with French Labels for SunSet E20.
SSE20CFR	Replace all standard labels (LED & Keypad) with French Labels for SunSet E20c.

Each configuration includes:

Universal AC Charger (SS138E), Battery Pack (SS140), Protective Cartridge (SW2504), Power Cord (SA155-EU), User's Manual (SS266), and Certificate of Calibration (SSE20CC). All other accessories including datacom adapters must be purchased separately.

Note 1: Alternate power cord and alternate language for User's Manual can be substituted at N/C (please specify at time of order).

Hardware Options

SS600	SSE20 Datacom Software/Hardware Includes software for datacom testing (SW600DC) and datacom cable (SS308). Requires additional adapters or adapters package from Datacom Adapters section. For SSE20 B&W units only.
SS600C	SSE20C Datacom Software/Hardware Includes software for datacom testing (SW600DC) and datacom cable (SS308). Requires additional adapters or adapters packages from Datacom Adapters section. For SSE20C color units only.

Software Options

SW600TL1	TL1 Remote Control
SW600VT	VT100 Remote Control for SSE20 only
SW600WIN	Windows Remote Control for SSE20 Includes SS115D (DB9 to DIN8), SS122B (Null Modem), and SA910-M which includes SA910-CD.
SW600WIN-C	Windows Remote Control for SSE20C Includes SS115D (DB9 to DIN8), SS122B (Null Modem), and SA910-M which includes SA910-CD.
SW601A	VF Call Analysis
SW601E	VF Call Emulation
SW602	C-bit Analysis
SW603	Frame Relay Includes manual SS266-1
SW603N	Frame Relay NNI Requires SW603
SW604	GSM Voice and TRAU Access Includes manual SS266-2
SW605	GSM Abis Protocol Analysis Includes manual SS266-2
SW606	X.50 Analysis Includes manual SS266-6
SW607	V.110 Analysis Includes manual SS266-7
SW608	X.25 Analysis Includes 1 Mb SRAM Memory Card SA701
SW609	GPRS Analysis Includes SW629, SW621, SW622, and SA701 1 MB SRAM Memory Card. Requires SW603 & SW605.
SW610	ISDN Monitoring & Call Emulation Required for ISDN Protocols when ordering SW611-SW615. Includes manual SS266-3

SW611	ETSI (EuroISDN) Protocol Requires SW610
SW612	Aussi Protocol Requires SW610
SW613	QSIG Protocol Monitor Only Requires SW610
SW614	DPNSS Protocol Requires SW610
SW615	DASS2 Protocol Requires SW610
SW621	GPRS Abis Analysis-Ericsson BSS Requires SW605 GSM Abis option
SW622	GPRS Abis Analysis - Nokia BSS Requires SW605 GSM Abis option
SW624	GPRS A-bis Analysis - Nortel BSS Requires SW605 GSM Abis option
SW629	GPRS Gb Analysis Requires SW603 Frame Relay option
SW630	V5.x Monitoring Includes manual SS266-5
SW631	3-timeslot V5.2 Monitoring SW630 required
SW640	SS7 Analysis (MTP, SCCP, TCAP) Required for SS7 Analysis when ordering SW641-SW646 Includes manual SS266-4.
SW641	TUP Analysis ITU Standard Requires SW640
SW642	ISUP Analysis ITU Standard Requires SW640
SW644	Mobile Application Part BSSAP (DTAP+MAP) Requires SW640
SW645	ISUP Analysis Chinese Standard Requires SW640
SW647	ISUP Analysis ANSI Standard Requires SW640
SW648	SSUTR2 Protocol Requires SW640
SW691	Jitter Measurement for SSE20C
SW692	Jitter Generation for SSE20C
SA701	1MB SRAM Card. Memory Card with battery back up to increase the storage capacity of the test set
Note 2:	Software cartridges may be upgraded to include additional options at any time.

Upgrade Option

RE105	Retrofit Option (includes SW691 and hardware upgrade)
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Warranty and Extended Options

SSE20W	Extended Warranty Extends standard warranty to 3 years
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Calibration Options

SSE20CC	Certificate of Calibration & Compliance When requested after shipment of original order.
SSE20CCM	Measurement Data Certificate of Compliance with Measurement Data when specified at time of order.

Accessories

SS101	Carrying Case
SS104D	Cigarette Lighter Adapter NiMH Cigarette Lighter Battery Charger. Output 15.5 V DC @2.5A (For use on SunSets equipped with NiMH battery only).
SS115	Printer Cable DIN-8 to DB-25 RS-232C

SS115D	Printer Cable DIN-8 to DB-9 (m) RS-232C with Full Handshaking. Included when SS118B/C is ordered.
SS117	Printer Paper 5 rolls, for SS118B/C/D/E
SS118B	High Capacity Thermal Printer internal rechargeable battery. Includes (SS115D) for connection to SunSet, and 110 VAC charger.
SS118C	High Capacity Thermal Printer with internal rechargeable battery. Includes (SS115D) for connection to SunSet, and 220 VAC charger.
SS122B	Null Modem Adapter DB-9 (f) to DB-9 (f) with Full Handshaking
SS122C	Null Modem Adapter DB-25 (f) to DB-25 (f) with Full Handshaking
SS123A	SunSet Jacket Provides additional weather protection for SunSets. Includes Carabiner Hook (SS123B).
SS123C	SunSet Jacket, Large Provides additional weather protection for SunSets. Only for use with Rubber Holster (SS143B). Includes Carabiner Hook (SS123B).
SS143B	Rubber Holster for SSE20 only Protective rubber covering with integrated instrument stand. Compatible with SS123C.
SS149	Headphone
SS266-8	SSE20 Service Manual

2 Mbps Cables

SS210	Conversion Cable BNC (m) 75Ω to 3-pin banana CF (m) 120Ω, 2 m
SS211	Cable BNC (m) 75Ω to BNC (m) 75Ω, 2 m
SS212	Conversion Cable Single Bantam (m) 120Ω to BNC (m) 75Ω, 2 m
SS216	Conversion Cable BNC (m) 75Ω to BR2 (m) 120Ω, 2 m
SS217	Cable 1.6/5.6 mm (m) 75Ω to 1.6/5.6 mm (m) 75Ω, 2 m
SS220	Conversion Cable BNC (m) 75Ω to 1.6/5.6 mm (m) 75Ω, 2 m
SS221	Cable 3-pin banana CF (m) 120Ω to 3-pin banana CF (m) 120Ω, 2 m
SS223	Cable BR2 (m) 120Ω to 3-pin banana CF (m) 120Ω, 2 m
SS225	Cable Bantam (m) 120Ω to 3-pin banana CF (m) 120Ω, 2 m
SS227	Conversion Cable BNC (m) 75Ω to probe clips 120Ω, 2 m
SS228	Cable 3-pin banana (CF) 120Ω to probe clips, 2 m
SA331	Adapter BNC 75Ω (m) to 1.6/5.6 mm 75Ω (f), 2 m
SS434	Cable RJ48 (m) 120Ω to two 3-pin Banana CF (m) 120Ω, 2 m
SS436	Conversion Cable RJ48 (m) 120Ω to two BNC (m) 75Ω, 2 m

Datacom Adapters

SS253	X.21/V.11 DTE/DCE Interface Adapters Set DB37 to ISO 4903 DB15 connectors
SS253C	X.21/V.11 DCE Interface Adapter DB37 to ISO 4903 DB15 connectors
SS253T	X.21/V.11 DTE Interface Adapter DB37 to ISO 4903 DB15 connectors
SS253Y	X.21/V.11 Datacom Monitor Y-cable DB37 to male and female ISO 4903 DB15 connectors
SS254	RS-232/V.24 DTE/DCE Adapter Set DB37 to ISO 2110 DB25 connectors
SS254C	RS-232/V.24 DCE Interface Adapter DB37 to ISO 2110 DB25 connectors
SS254T	RS-232/V.24 DTE Interface Adapter DB37 to ISO 2110 DB25 connectors

SS254Y	RS-232/V.24 Datacom Monitor Y-cable DB37 to male and female ISO 2110 DB25 connectors
SS255	RS449/V.36 DTE/DCE Adapters Set DB37 to ISO 4902 DB37 connectors
SS255C	RS449/V.36 DCE Interface Adapter DB37 to ISO 4902 DB37 connectors
SS255T	RS449/V.36 DTE Interface Adapter DB37 to ISO 4902 DB37 connectors
SS255Y	RS449/V.36 Datacom Monitor Y-cable DB37 to male and female ISO 4902 DB37 connectors
SS256B	G.703 64 Codirectional Interface Adapter DB37 to CF 3-pin banana TX and RX connectors
SS262-B	RS-530 DTE/DCE Interface Adapter Set DB37 to DB25 connectors
SS262C-B	RS-530 DCE DB37 to DB25 connectors
SS262T-B	RS-530 DTE Interface Adapters DB37 to DB25 connectors
SS267	V.35 DTE/DCE Adapter Set DB37 to ISO 2593 34 pin connectors
SS267C	V.35 DCE Interface Adapter DB37 to ISO 2593 34 pin connectors
SS267T	V.35 DTE Interface Adapter DB37 to ISO 2593 34 pin connectors
SS267Y	V.35 Datacom Monitor Y-cable DB37 to male and female ISO 2593 34 pin connectors
SS600DCC	Datacom Adapters Package Includes datacom adapters SS253, SS254, SS255, SS256B, SS262-B, and SS267
SS600DCY	Datacom Adapters Y Package Includes datacom adapters SS253, SS253Y, SS254, SS254Y, SS255, SS255Y, SS256B, SS262-B, SS267, and SS267Y

Replacement

SW2504	Protective Cartridge Protects the 2nd card slot when empty
SS123B	Carabiner Hook For SunSet Jacket
SS138E	SunSet AC Adapter 100-240 VAC, 50/60 Hz input, 3-prong input, output 15 VDC @ 3.3A. Only for use with SunSets equipped with NiMH battery pack.
SS140	High Capacity NiMH Battery Pack. 9-Cell, 10.8 VDC, 1.8 Ahr
SS266	SunSet E20/E20c User's Manual, English
SS266-1	User's Manual Insert for Frame Relay
SS266-2	User's Manual Insert for GSM
SS266-3	User's Manual Insert for ISDN
SS266-4	User's Manual Insert for SS7
SS266-5	User's Manual Insert for V5.1/V5.2
SS266-6	User's Manual Insert for X.50
SS266-7	User's Manual Insert for V.110
SS266-10	User's Manual Insert for E20 TL1 Remote Control Manual
SS266-11	User's Manual Insert for X.25
SA910-M	SunSet Remote Control Manual Includes CD with latest Windows software
SS308	Datacom Cable SCSI-36 (m) to DB-37 (f) Interface cable, 2 m
SA155-EU	Power Cord 2-prong power cord plus ground for use in Europe (Except United Kingdom)
SA155-NA	Power Cord 3-prong power cord for use in Latin America, North America, and Asia
SA155-UK	Power Cord 3-prong power cord for use in United Kingdom

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