TSG3200 SS7/Signaling Gateway – T1/E1 or DS3 or OC3/STM-1

The TelcoBridges *T*sig **TSG3200** is a high-density carrier-grade SS7/SIGTRAN gateway and converter.

Supporting multiple TDM interface types, the TSG3200 is the most cost-effective SS7/Signaling gateway solution for service providers that is currently available on the market.

Product Characteristics:

- ✓ 1U SS7/SIGTRAN gateway
- ✓ TDM interface (ordering option)
    - o 16 to 64 T1/E1 or
    - o 1 to 3 DS3 or
    - o 1 OC3/STM-1 with APS
- ✓ SIGTRAN, SS7
- ✓ SCCP routing with Global Title Translation (GTT)
- ✓ Supports conversion from ISDN and CAS protocols
- ✓ Software upgradeable by T1/E1 increments
- ✓ Hot-swap redundant power supply (AC or DC)
- ✓ *T*sig 1+1 solution option

*T*sig 1+1 Protection Characteristics:

- ✓ Supports TDM interface types: T1/E1, DS3 or OC3/STM-1
- ✓ Passive solution (no power required)
- ✓ Enables full facility protection (TDM and IP)
- ✓ Active/Standby architecture with two TSG3200 units
- ✓ No single point of failure
- ✓ Five nine's redundancy

Tsig™
TSG3200 Data Sheet

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Interfaces

PSTN interfaces
16 to 64 T1/E1 or
1 to 3 DS3 or
1 OC3/STM-1 with APS
Framing independently configurable per port
2 BITS interfaces on DS3/OC3/STM-1 units

Packet interfaces
5 Ethernet ports 100/1000Base-T
RJ45 connectors on rear of unit
Up to 16 different IP addresses
Ethernet port bonding and 802.1q VLAN support

High Availability & Redundancy

Power supply redundancy
IP port redundancy
Self-recovery software
Fault tolerant software
MTP2 SS7 link redundancy

*T*sig 1+1 solution (optional)
The *Tsig* 1+1 solution extends the high-availability and
     redundancy features of the TSG3200

SS7/SIGTRAN gateway redundancy (active/standby)
Full capacity protection (TDM and IP)
Configuration database redundancy
Seamless software upgrade
M3UA/MTP3/ISUP redundancy

Tsig 1+1 solution consists of:
    1 active unit and 1 standby unit
    One 1+1 Patch Panel for TDM connectivity

1+1 Patch Panels are passive (no power required)

Signaling

Simultaneously supports any combination or all of the
following signaling protocols:

SS7
Up to 64 MTP2 links (56, 64, n x 56/64 kbps) or
     2 x HSL
Multiple redundant MTP2 links
Up to 64 originating point codes and 256 linksets
Up to 512 destination point codes
ISUP variants: ITU 92, ITU 97, ANSI 88, ANSI 92,
     ANSI 95, Q.767, Telcordia 97, ETSI v3, China,
     Singapore, UK, SPIROU, Japan NTT, Russia
Up to 384 SCCP routes and global title translations
(GTT) on called/calling party, SSN and Opcode

SIGTRAN
M2PA, M2UA, M3UA (IPSP, ASP, SG), IUA
SCTP (raw IP and UDP)
SS7 termination and/or relay supported
Up to 64 M2UA / M2PA links
Up to 64 M3UA peer server processes

ISDN PRI
Q.931 ISDN PRI (user and network side)
ISDN variants: NI-2, 4ESS, 5ESS, DMS-100,
     DMS-250, Euro ISDN ETSI NET5 (France,
     Germany, UK, China, Hong Kong, Korea), Euro
     Numeris (VN6), NTT (Japan), Australia
ISDN NFAS with D-channel backup

CAS
MF R1 (including E&M, loop start, ground start)
MF R2 (including standard ITU, Brazil, Mexico,
     Venezuela)
Customizable script files to implement any CAS variant

Tctrl (Call Control)

Toolpack framework call control

Call routing based on: trunk group, calling/called
   numbers (with digit manipulation) and/or
   various other protocol information/headers
Customizable routing including priority-based, load-
   balancing, black listing, call limiting, route
   retries, etc.
Customizable call cause code mapping
Programmable call routing: Access and manipulation of
   call parameters (SIP, SS7 and ISDN),
   including Nature of Address (NOA)
RADIUS authentication and authorization (supports
   multiple RADIUS servers)
NPA-NXX routing (over 5 million records)

Session management and billing

CDR generation (RADIUS and/or csv files)
Integrated lawful intercept (ETSI ES 201 671 v.2.1.1)

OAMP+T

Operations & Administration

Provisioning, management and status GUI
CLI and configuration file
Machine-to-machine interface (RESTful)
Configuration change audit logging
Access, user and privilege management
SNMP V2, V3 GET, TRAPs (alarms)
Extensive SNMP call statistics MIBs

Management

1 Ethernet port 100/1000Base-T
1 USB Type B serial port
1 RJ45 RS232 serial port
GUI-based and CLI system upgrade
GUI-based configuration copy, backup and restore
Storage for multiple software versions
Storage for multiple configuration files
Extensive system status display

Provisioning

Non-service affecting configuration changes
Offline configuration validation
Multiple configuration files archive
Northbound API (RESTful) for automated provisioning

Network Analytics (TB Analytics)

Live call trace with protocol information and ladder
   diagrams
Live test call with media playback and recording
TB Sigtrace – Protocol signaling capture into pcap files
Media call recording (scriptable for calling and called
   numbers)

Maintenance

Replaceable fan filters

Dimensions & Weight

TSG3200

1U, 19" rackmount
1.75" (44.5 mm)H x 16.9" (429 mm)W x 16" (406 mm)D
14.5 lbs (6.6 kg)

TSG3200 1+1 patch panels

1U, 19" rackmount
1.75"(44.5 mm)H x 16.9"(429 mm)W x 5.25"(133 mm)D
3.4 lbs (1.6 kg)

Regulatory Compliance

Safety

CAN.CSA C22.2
EN 60950-1:2005
EN 60950-1:2006

EMC

FCC Part 15:2013, Subpart B,
CE Mark (EN55022:2010, Class A, EN61000, ETSI
   EN 300 386)

HS Code

8517.62.00

Electrical Characteristics

90 to 260 VAC, 47 to 63 Hz or -36 to -72 VDC
Hot-swap redundant power supply (AC or DC)
Maximum 138W power consumption

Environmental

Operating temperature:
   0 to +70 °C, 95% rel. hum. non-condensing
Storage temperature:
   -10 to +85 °C, 95% rel. hum. non-condensing
Designed to meet NEBS Level 3
RoHS compliant
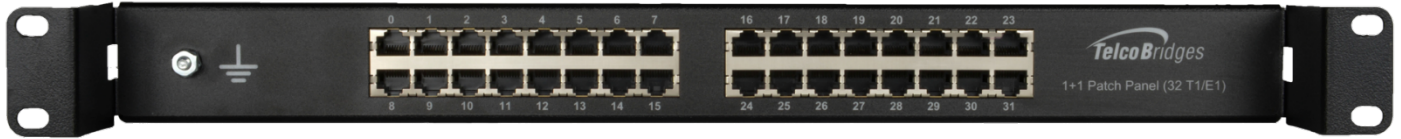
Tsig TSG3200 (front view)

*T*sig TSG3200-TE rear view (AC power input shown)

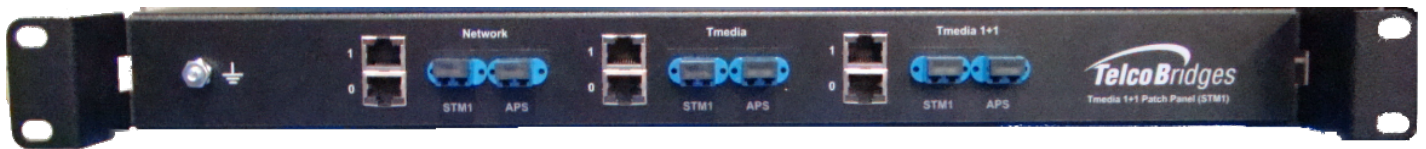*Tsig* TSG3200-DS3 rear view

*T*sig TSG3200-STM1 rear view

1+1 Patch Panel for *T*sig TSG3200-TE (front view)

1+1 Patch Panel for *T*sig TSG3200-DS3 (front view)

1+1 Patch Panel for *T*sig TSG3200-STM1 (front view)