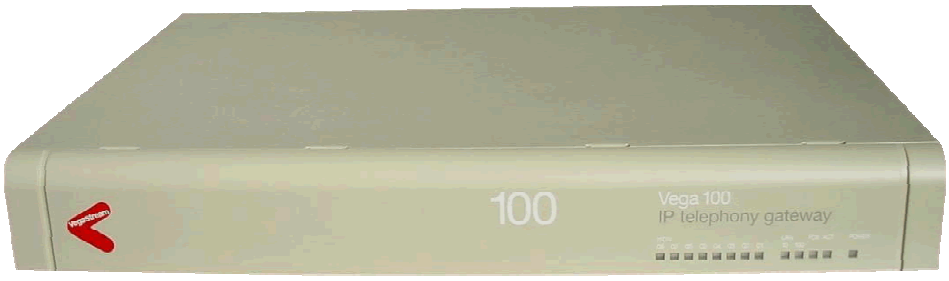
Vega 100 T1



Vega 100 T1 features

- Desktop or 19” rack mount
- 2 PRI/CAS T1 connections
- 23 or 46 calls to LAN (PRI)
- NI 1, NI 2, 4 ESS, 5 ESS and DMS 100 signaling
- QSIG
  - available for basic calls from Release 4
  - tunneled QSIG (all supplementary services) from Release 5
- 24 or 48 calls to LAN (CAS)
- E&M, loop start and ground start available from release R5.1
- NT / TE configurable

Vega general product features

- Web browser configuration
- 10 base T / 100 base TX LAN
- QOS packet marking
  - layer 3 Type Of Service
  - layer 2 802.1 p/q
- Call detail records available
  - from Telnet and Serial interfaces
  - via Radius accounting records
- Built in dial planner
- SNMP
- Auto-load config and firmware

Vega VoIP features

- Echo cancellation
  –G.168 – up to 32ms (R6 up to 128ms)
- Codecs / companders
  –G.711Alaw64k
  –G711ulaw64k
  –G729AnnexA (/b)
  –G.723.1
  –T.38
- Silence suppression configurable per codec

Environmental

- Operating temperature: 0ºC to +40ºC
- Storage temperature: -20ºC to +70ºC
- Humidity: 0 to 90% (non condensing)

Power

- 100 - 260 Vac, 47 - 63 Hz, 1A - 0.5A
- Fuse rating: 2A - type T (e.g. Bussmann S505)

Physical dimensions

- 440mm (17.4") x 63mm (2.5") x 330mm (13") width / height / depth
- Industrial rack mount: 483mm (19"), 1.5U
- Weight: 5.3 kg

ISDN DSL Status LED	LED Off	LED Flash	LED On
Vega 100	No physical connection	Physical only	Physical + layer 2

Vega100 T1 10023 / 10046

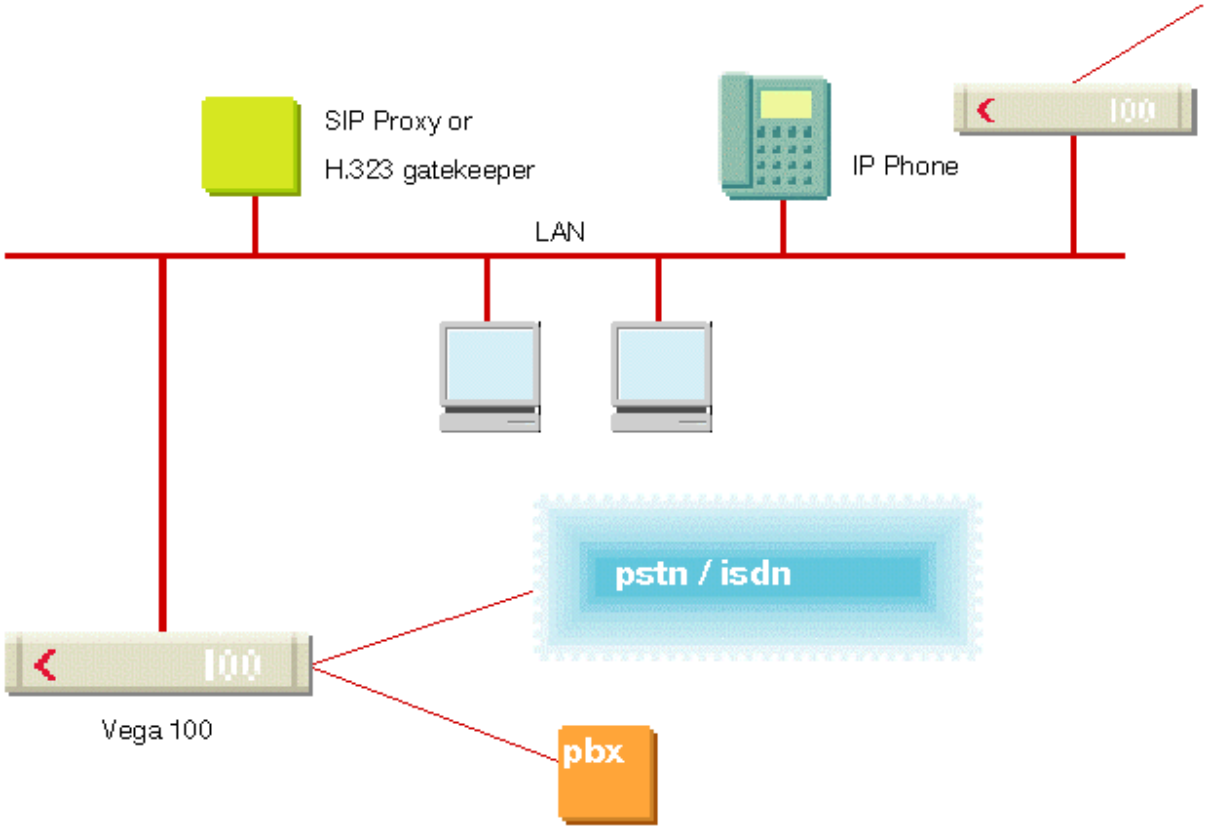
2 RJ-45 connectors used; •connectors 3 and 4 are reserved for future expansion

T1 Cables supplied

Blue booted ISDN cable – Vega TE → NT

Red booted ISDN cable – Vega NT → TE

Typical configuration



Approvals

- Approved for North America

  ISDN – FCC part 68 (USA), CS-03 (Canada)
  Safety – UL60950
  EMC – FCC part 15 class B

- Approved for European CE Countries

  Safety – EN60950, IEC60950

  EMC – EN55022 class B (CISPR22), EN55024(CISPR24)

- Approved for Australia / New Zealand

  Safety – AS/NZ60950

  EMC – AS/NZS 3548 Class B

Tech Spec

- T1 DSL Physical

100 ohm connection
PRI
23 bearer channels - channels 1 to 23
1 "D" channel (signalling) - channel 24
CAS
24 bearer channels - channels 1 to 24
Robbed bit signalling
8 kbps framing
Superframe, Extended Superframe framing
AMI, B8ZS line encoding
TE / NT mode soft configurable by DSL

- T1 D-channel Signalling

N. American PRI
NI1/2, AT&T 4/5ESS, DMS100
Robbed bit signalling CAS
E&M inc feature group D, loop start, ground start

Cable pinouts

Cables with RJ48 plugs are used to connect to the Vega 100's ISDN ports. The pinout of the Vega 100 E1/T1 card is hardwired as NT. A (RED) straight through cable is used to connect an NT Vega DSL to a TE far end device. A (BLUE) cross-over cable is used to connect a TE Vega DSL to an NT far end device.

Vega 100 PRI	Far end device	
NT (physical)	NT	TE
1 (Tx+)	4 (Rx+)	1 (Rx+)
2 (Tx-)	5 (Rx-)	2 (Rx-)
4 (Rx+)	1 (Tx+)	4 (Tx+)
5 (Rx-)	2 (Tx-)	5 (Tx-)

For Loopback between a Vega NT port and a Vega TE port, use the BLUE cable

T1 cabling should use 22 AWG wire.

Cables with RJ45 sockets are used to connect the Vega to a Ethernet LAN hub. A standard 1:1 cable is required.

Ethernet
1 (Tx+)
2 (Tx-)
3 (Rx+)
6 (Rx-)

To Make cables for Vegas use the following parts (or similar)

T1/E1 and BRI cable:

Component	Part number	Description	Manufacturer
Cable	Belden 9804	Cat 5 S-FTP 2 Twisted Pair Cable (UL2960)	Belden www.belden.com
RJ45 connector	Stewart 360808A217	RJ45 Screened plug	Stewart www.stewartconnector.com
RJ45 boot for TE	Stewart 361010SRX225A255	RJ45 UL approved blue strain relief boot	Stewart www.stewartconnector.com
RJ45 boot for NT	Stewart 361010SRX225A257	RJ45 UL approved red strain relief boot	Stewart www.stewartconnector.com

Note:

1. When connecting the cable to the RJ45 connector ensure that there is 360˚ contact between the cable's braided screen and the RJ45 screen.
2. Balanced connections should have their + and – sides in the same twisted pair

LAN cable:

Component	Part number	Description	Manufacturer
Cable	Belden 9804	Cat 5 S-FTP 2 Twisted Pair Cable (UL2960)	Belden www.belden.com
RJ45 connector	Stewart 360808A217	RJ45 Screened plug	Stewart www.stewartconnector.com
RJ45 boot	Stewart 361010SRX225A256	RJ45 UL approved yellow strain relief boot	Stewart www.stewartconnector.com
Ferrite	Stewart 28B0562-200	EMI suppression ferrite core (solid, loose)	Stewart www.stewartconnector.com
Heat-shrink sleeve	TAKBRO CPA-100-13/4	Adhesive heatshrink (13mm od, 3:1) black UL224, MIL-1-23053	TAKBRO www.takbro.co.uk

Note:

1. When connecting the cable to the RJ45 connector ensure that there is 360˚ contact between the cable's braided screen and the RJ45 screen.
2. EMI suppression ferrite is to be fitted within 2mm +/- 2mm of the RJ45 connector boot – on the end that connects to the Vega.