

# V50plus Datasheet

## KEY FEATURES

- ▼ Big performance in a compact chassis
- ▼ Support for IP, serial, radio, ISDN and analog phone connectivity, including secure voice
- ▼ Compatible with IP telephone systems such as Asterisk, Cisco and Avaya
- ▼ Machine to machine serial interface support



## COMPATIBLE WITH



IP Router



Acceleration



Network Security



Four wire



Secure voice



POTS voice



ISDN



Serial data



Hand Portable

**V50plus provides the capability of larger systems but in a compact chassis. The device has a huge 16 port capacity and support for a wide range of legacy communications types.**

### VOICE, VIDEO AND DATA CONNECTIVITY

Offering connectivity options for analog voice, VoIP, RoIP, ISDN and serial controlled devices, V50plus is the perfect solution for maximum connectivity with ultra portability.

### LOW SIZE, WEIGHT AND POWER

A palm-sized, fully integrated router capable of essential field or centralized communications. V50plus is ideal for first responders, field reporters and tactical operators in manpack or briefcase size systems.

### VOICE OPTIMIZATION

Reduce bandwidth by up to 65%, increase the number of concurrent phone calls and improve call quality over low bandwidth links such as satellite and cellular networks.

### DATA ACCELERATION

Increase download speeds and reduce the bandwidth over satellite links for corporate traffic such as network data, Internet access or file transfers.

### CONNECT PUSH-TO-TALK USERS TO TELEPHONE USERS

Connect push-to-talk radio users with fixed line and cellular telephone users. From a telephone system users can talk with radio holders, two-way, exactly as they would with any other telephone user. Radio holders can also call telephone users via their radio handset.

### SUPPORT FOR MULTIPLE MANUFACTURERS

Radio and telephone devices from different manufacturers can be part of a single system, providing a unified network, regardless of brand, radio frequency or technology type.

### MODULAR CARD DESIGN

V50plus is based on modular card design, allowing customers to choose from a wide range of configurations to create a V50plus that perfectly meets their communication needs.

# Technical Data

## MECHANICAL

Form Factor:	Desktop/shelf mount
Maximum # of modules:	2
Cooling:	Forced air cooling from single 1.18in / 30mm inlet fan
Operating Conditions:	0-50degC ambient 0-90%RH non-condensing
MTBF:	>100,000hours at 50degC
Dimensions:	255 x 121 x 44mm
Indicators:	4 red/green for Status, Power, Port1, Port2 2 Green (RX Carrier), 2 Yellow (RX activity) for Ethernet1, Ethernet2 Additional LEDs by option module: 8 green per FXS voice 8 green per FXO voice 8 yellow per Ethernet switch 4 yellow + 4 green per ISDN module
Weight:	1kg
Part number:	68050/PACK
<b>Electrical:</b>	
Supply Input Rating:	9-18V DC@4A
Consumption(max):	40W
AC Adaptor:	100-240V AC 47-63Hz @ 0.6A

## FUNCTIONAL

<b>Serial Data ports:</b>	2
Presentation:	DB15F HD DCE or DTE
Electrical Interfaces:	V.24, V.11, V.35, V.36, RS449, RS530, RS530A
V.24 Rates:	Async up to 115200bps at standard baud rates Sync int/ext clock in 25bps multiples up to 9600bps, 800bps multiples up to 115200bps
All others:	Sync int/ext clocks at 25bps multiples up to 9600bps, 800bps multiples to 512kbps, 8kbps multiples to 5.12Mbps
Async Format:	5-8 data bits, OENMS Parity, 1-2.5 stop bits
Sync Format:	Transparent or HLDC NRZ/NRZI
Clocking:	Independent RX/TX with EXT, INT, PLL sourcing
Function:	Aggregate or tributary
Aggregate Protocol:	Vocality Proprietary Packetized
<b>10/100base-T Ethernet Ports:</b>	2
Presentation:	UTP on 8-way RJ45 with auto-MDIX
Formats:	IEEE 802.3u(10base-T), IEEE 802.3z(100base-TX)
Indicators:	Green (RX carrier), Yellow (RX activity)
Protocol Support:	DNS Client, DHCP Client/Server, Telnet, RIPv2, OSPF
<b>Bridge/Router Capability:</b>	
Functions:	Bridging or IPv4 static router with DHCP client/server/relay RIP, OSPF routing protocols, UDP Relay for Broadcasts, Fragmentation and reassembly, Dynamic Bandwidth Assignment (DBA), IEEE802.1d, Spanning Tree Bridging
Options:	Performance Enhancing Proxy (PEP)
<b>M&amp;C Port:</b>	
Presentation:	6-way locking mini-DIN
Electrical Interface:	V.24/RS232 serial
Format:	Async up to 115200bps
Protocol:	Formatted terminal emulation or TTY mode

## SOFTWARE FEATURE KEYS

SWF/SNMP	SNMP Software Feature Key
SWF/VLAN	VLAN Feature Key
SWF/8V	Activating analog voice on ports 5-8
SWF/VOIP/SIP10	Block of 10 Analog to SIP User Agents for SIP based VoIP functionality

## HARDWARE OPTIONS

Up to two option modules may be installed in the V50plus from the following range:  
FXS Analog voice/FAX (68053), with or without Universal Modem Relay board (68718/1000)  
FXO Analog voice/FAX (68056), with or without Universal Modem Relay board (68718/1000)  
Radio Relay E&M Four Wire card (68064)  
10/100Base-T Ethernet Switch (68054), with or without Power over Ethernet (68054/POE)  
ISDN BRI (68057) with or without expansion from single to quad BRI (68059)

Descriptions of these option modules follow

V50plus is a product under continuous development.  
Information subject to change. Correct at time of printing. Mar 2017.

Please be advised that Vocality offers two variants of VOS software — one including IPsec and SSH features and one without these features. The IPsec / SSH variant of the software is subject to UK dual-use export control restrictions, whereas the software without IPsec / SSH is not subject to specific export control.

## V50plus Hardware Option modules

Up to two of the five hardware options modules available can be installed in a V50plus.

The following pages provide technical data for each of these option modules.

The options are:

- FXS Analog voice/FAX (4 or 8 channels), which comes with the option of a Universal Modem Relay board
- FXO Analog voice/FAX (4 or 8 channels), which comes with the option of a Universal Modem Relay board
- Radio Relay E&M Four Wire card (8 channels)
- 10/100Base-T Ethernet Switch, which comes with the option of Power over Ethernet
- ISDN BRI, with or without expansion from dingle to quad BRI

### FXS Analog voice

#### FUNCTIONAL

Number of channels:	4/8 by Feature Key
Presentation:	8-way RJ-45
Interfaces:	2-wire FXS for connection to telephone/trunk port with ring voltage/cadence generation and dial pulse/ring trip detection on all ports
Compression:	G.723.1 (5.3/6.3kbps MP-MLQ), G.729 Annex A (8kbps CS-ACELP), G.726 (16-40kbps ADPCM), G.727 (16-40kbps E-ADPCM), G.711 (64kbps PCM) $\mu$ -law or A-law
Relays:	DTMF, Group 3 FAX relay at 2400-14400bps, V.32bis Modem relay up to 14400bps, Universal Modem Relay (see below)
Signaling:	Pulse, DTMF, Call Progress
Echo cancellation:	G.168 adaptive (16/32mS tail)
Coding delay:	Per algorithm
Gain:	$\pm$ 31dB programmable in 1dB
Part number:	68053

#### HARDWARE OPTIONS

##### Universal Modem Relay Board:

Relays:	STU-IIB, STU-III, STE
Rates:	2400, 4800, 9600bps secure or non-secure
Number of Channels:	Eight simultaneously per card
Part number:	68718/1000

### FXO Analog voice

All features as for FXS Analog Voice with the exception of:

#### FUNCTIONAL

Interfaces:	2-wire FXO for connection to PSTN or PBX extension port with ring voltage/cadence detection and dial pulse/ring trip generation on all ports
Part number:	68056

### Ethernet Switch

#### FUNCTIONAL

Number of Ports:	8
Presentation:	UTP on 8-way RJ45 with auto-MDIX
Formats:	IEEE 802.3u(10base-T), IEEE 802.3z(100base-TX)
Indicators:	One per channel, yellow (RX carrier)
Part number:	68054

### Ethernet Switch with PoE

#### FUNCTIONAL

Number of Ports:	8
Presentation:	UTP on 8-way RJ45 with auto-MDIX
Formats:	IEEE 802.3u(10base-T), IEEE 802.3z(100base-TX)
Indicators:	One per channel, yellow (RX carrier)
Power-over-Ethernet:	with external -48V supply
Part number:	68054/POE

## Radio Relay E&M Four Wire

All features as for FXS Analog Voice with the exception of:

### FUNCTIONAL

Number of channels:	8
Interfaces:	4-wire Tie-line with Type V E&M keying activation and loop output
Relays:	DTMF
Signaling:	E&M, Pulse, DTMF, Call Progress
Impedance:	600 ohms
Max Input Level (1kHz):	6.0V pk-pk
Max Output Level (1kHz):	7.1V pk-pk
Input-Output Gain (1kHz):	+1.36dB unterminated
Max 'M' lead activation range:	+0.8 to -48V
Passband Flatness:	+/- 1.0dB (300-3300Hz)
Maximum 'E' lead voltage:	-55V to +60V relative to chassis
Maximum 'E' lead current:	+/- 100mA
Part number:	68064

## ISDN BRI

### FUNCTIONAL

Number of Physical Ports:	2 wired in parallel (8 with Expansion Card fitted)
Number of BRIs:	1 (4 with Expansion Card fitted)
Structure of BRIs:	2B+D
Presentation:	8-wire RJ45 x 8 (6 not to be used unless Expansion Card fitted)
Interface Type:	Basic Rate S/T
Link Layer:	ITU-TI.430, Q.921
Protocol Support:	ETSI NET3, US National ISDN, AT&T 5ESS, Nortel DMS-100, France VN6
Functions Supported:	(1) Dialup Aggregate as Terminal Adaptor, (2) Tributary service as ISDN Network Function
Features:	SPID, LDN, Bandwidth Top-up and Bonding
Device Type:	TE(as TA), NT(as Network Function)
Indicators:	Four yellow/green LED pairs, one per BRI
Part number:	68057 (68059 Expansion Card from single to quad BRI)

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