BASICS Radio Relay provides connectivity of traditional push-to-talk and digital radio systems with fixed line and cellular telephone systems.

CONNECT PUSH-TO-TALK USERS TO TELEPHONE USERS
BASICS Radio Relay makes it easy to 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. This unit can be used standalone or as part of a bigger network. It is compatible with equipment from leading manufacturers including Asterisk, Cisco and Avaya.

EXTEND RADIO NETWORK RANGE
Radio networks can be easily extended across multiple sites or campuses, using existing IP networks to transmit and receive radio traffic. Broadcasters clean feed or talkback services can be extended to trucks.

SUPPORT FOR MULTIPLE RADIO DEVICES
Radio devices from different manufacturers can be part of single radio system, providing a unified network regardless of radio brand, frequency or technology. Ideal for use over satellite networks.

INTEGRATE WITH RADIO DISPATCH SYSTEMS
As a part of an emergency response solution, the BASICS Radio Relay is easily integrated with many of the leading radio dispatch systems including Motorola Solutions WAVE, Intracom VCOM and Mutualink IWS.

OPTIMIZATION AND ACCELERATION
Vocality’s optional voice optimization and data acceleration are included as standard, able to reduce the bandwidth required by up to 60%. Ideal for use over satellite networks.

OTHER MODELS WITH THIS FUNCTIONALITY:
- BASICS PC104 form factor units for system integrators;
- BASICS Rackmount to sit alongside other BASICS units;
- BASICS Toughbox for harsher conditions.

For details see separate datasheets.
**Technical Data**

**MECHANICAL**

Form Factor: Standalone enclosure  
Cooling: Conduction by internal Heat Jacket to case  
Operating Conditions: boxed*  
-40degC to +70degC ambient 0-95%RH non-condensing  
Shock and Vibration: TBC  
MTBF: >175,000hours at 70degC  
Dimensions: 4.84 x 5.37 x 1.04in / 123 x 136.5 x 26.5mm  
Indicators: 4 blue voice channel status LEDs, 2 blue Ethernet port status LEDs, 1 bicolor red/green status LED, white case LEDs  
Weight: 0.68lb / 308g  

**Electrical:**

Supply Input Rating: 5V DC +/-5%  
Consumption(typ): 3W  
Mains Adapter: 100-240V AC @ 1A, 50-60Hz (Output 5V DC@4A)  

**Connectors:**

DC Power: 4-way locking Power Connector  
M&C: 6-way Locking Mini-DIN  
Uplink, Downlink Ethereons: 2 x 8-way RJ45  
Analogue Voice Ports: 4 x 8-way RJ45  
Part number: 68564/RP/1  

**FUNCTIONAL — COMMON TO ALL FORM FACTORS**

M&C Port: V.24/RS232 serial  
Format: Async 9600bps, 8 data bits, no parity, 1 stop bit  
Protocol: Formatted terminal emulation or TTY mode  

10/100base-T Ethernet Ports: 2  
Presentation: Auto-MDIX  
Formats: IEEE 802.3i(10base-T), IEEE 802.3u(100base-TX)  
Basic Protocol Support: DNS Client, DHCP Client, Telnet  
Extended Protocol Support: SWF/ROUTER Feature Key enables static routing, RIP, OSPF, Multicast client, Uncast RTP, Multicast RTP, NAT Traversal by STUN  
SIP Protocol Support: Registrar for SIP clients enabled by Feature Key  
Functionality: Voicality IP Aggregate, IP passsthrough, SIP voice gateway  
RTP Packet Sampling Rates: 20ms, 30ms, 40ms, 50ms, 60ms, 80ms, 100ms or AUTO  
Analogue Voice/FAX Ports: 1 standard (expandable to 4 by Feature Key)  
Interfaces: 4-wire Tie-line with Types I, II and V E&M keying activation and loop output  
Compression: G.723.1 (5, 3.6/3.6kbps MP-MLQ), G.729 Annex A (8kbps CS-ACELP), G.726 (16-40kbps ADPCM), G.727 (16-40kbps E-ADPCM), G.711 (64kbps PCM) µ-law or A-law  
Relays: DTMF  
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 relative to chassis  
Passband Flatness: +/- 1.0dB (300-3300Hz)  
Maximum ‘E’ lead voltage: -55V to +60V relative to chassis  
Maximum ‘E’ lead current: +/- 100mA  
Signaling: E&M, Pulse, DTMF, Call Progress  
Activation: M-Lead, Vox, Permanent, Dialing  
Echo cancellation: G.168 adaptive (16/32ms tail)  
Coding delay: Per algorithm  
Gain: ± 31dB programmable in 1dB  

**SOFTWARE FEATURE KEYS**

SWF/1V: Port activation key (up to 3 per hardware unit)  
SWF/SNMP: SNMP Software Feature Key  
SWF/ROUTER: Standard IP Router (inc PEP & PACE)  
SWF/VLAN: VLAN Feature Key  

* When the equipment is adequately protected from direct user contact, the equipment will reliably operate with an ambient temperature within the specified range. When the equipment is installed in a user-accessible location, adequate heat sinking must be provided to ensure the case temperature does not exceed 70degC (BS EN60950-1:2006 Table4C) for user protection.

BASICS Radio Relay 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.