



QUARTET
TECHNOLOGY, INC.

QSP[™]
(Owners Manual)

87 Progress Avenue, Tyngsboro, MA 01879, USA
Phone (978) 649-4ECU Fax (978) 649-8363

<http://www.qtiusa.com>

Trademarks, Version, Printing, and Copyright

Trademarks

Simplicity™ All-In-One™, Simplicity™ Voice, Simplicity™ Switch, Smart Switch™, VMK™, and QSP™ are registered trademarks of Quartet Technology, Inc.

Version

June, 2001
Version 1.0
North American Edition

Printing

Printed in the USA.

Quartet Technology, Inc. (QTI) is concerned about the environment. To reduce waste and complete the recycling circle, we printed this manual and cover on stock that is recyclable. QTI has made every effort to look at environmental implications when deciding on packaging.

Copyright

Copyright© 2001 Quartet Technology, Inc.

QSP Manual P/N: 5090

This manual is copyrighted and all rights are reserved. This manual may not, in whole or in part, be copied, photocopied, translated, or reduced to any electronic medium or machine-readable form without prior consent, in writing, from Quartet Technology, Inc.

The information in this manual is subject to change without notice and Quartet Technology, Inc. assumes no responsibility for any errors that may appear in this document.

Warranty Information

Warranty

In connection with Products sold and Software licensed by Quartet to the Buyer hereunder, Quartet makes the following warranties, and no others:

(1) Quartet warrants that the Products (excluding, where applicable, any batteries, microphones, therein contained, or any portion thereof comprised of Software, which is specifically warranted below) will be free of defects in materials and workmanship for a period of one year from the date of delivery to the Buyer. Quartet's sole responsibility under the aforesaid warranty shall be, at its election, the repair or replacement of defective materials and/or workmanship during the aforesaid period, provided that the Buyer has promptly reported such defect to Quartet and Quartet has found, upon inspection, that such Products are defective. The Buyer must obtain shipping instructions from Quartet prior to returning any Products under warranty. It is the Buyer's responsibility to return the defective Products to Quartet at the Buyer's expense. Ordinary transportation charges back to the Buyer shall be the responsibility of the Buyer, exclusive of duties, tariffs and transportation insurance. All replaced hardware or parts shall become Quartet's property.

(2) Quartet warrants that all unmodified Software will substantially conform, for a period of one year from the date of delivery to the Buyer, to Quartet's published specifications prevailing at the time of shipment. Receipt by Quartet of a written claim under this warranty and the return of the Software must occur within said period. Quartet does not warrant that the Software will be error free or that all errors will be remedied. Quartet's entire liability under this warranty shall be for Quartet to make reasonable efforts to remedy, in a manner deemed suitable to Quartet, any nonconformance reported in writing during the warranty period.

(3) EXCEPT FOR THE WARRANTIES SET FORTH IN THIS SUBSECTION, QUARTET HEREBY DISCLAIMS, TO THE MAXIMUM EXTENT ALLOWED BY LAW, ALL OTHER EXPRESS OR IMPLIED WARRANTIES IN RESPECT OF THE PRODUCTS OR THE SOFTWARE, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A PARTICULAR PURPOSE. THE EXPRESS WARRANTIES STATED ABOVE ARE IN LIEU OF ALL OBLIGATIONS AND LIABILITIES OF QUARTET FOR DAMAGES, INCLUDING, WITHOUT LIMITATION, INCIDENTAL CONSEQUENTIAL (INCLUDING, WITHOUT LIMITATION, LOSS OF PROFITS OR LOSS OR DESTRUCTION OF DATA), INDIRECT, SPECIAL OR EXEMPLARY DAMAGES THAT ARISE IN ANY WAY OUT OF ANY DEFECTS IN THE PRODUCTS OR SOFTWARE OR IN THEIR MATERIALS OR WORKMANSHIP

Manual Description

Audience

This manual is for users of the Quartet Sip n' Puff (QSP) switch (P/N:9260).

Purpose

The purpose of this manual is to provide:

- An introduction to the QSP switch
 - Features of the QSP
 - Instruction for configuring the QSP
-

Intended Use

The intended function of the QSP is to provide those with motor impairments control of low voltage adaptive devices in a home, work, school, hospital, or leisure environment via sip and/or puff as a means of switch control.

Caution

The QSP is not intended for switching heavy loads. Only **low voltage, low current** devices should be connected to the QSP.

Do not switch AC line voltages!

The maximum rating for the QSP port switches is 30 VDC, or 30 VAC at a maximum current of 50 milliamps.

Table of Contents

TRADEMARKS, VERSION, PRINTING, AND COPYRIGHT	2
WARRANTY INFORMATION	3
MANUAL DESCRIPTION	4
OVERVIEW	6
<i>Introduction</i>	6
<i>Features</i>	6
QSP COMPONENTS	7
<i>QSP View</i>	7
<i>QSP Components</i>	7
CONNECTING THE QSP.....	8
<i>Procedure</i>	8
CONFIGURING THE QSP.....	9
<i>Stereo Plugs</i>	9
<i>Configuration Table</i>	10
<i>Factory Default</i>	10
<i>Examples</i>	11
OPERATING THE FRONT PANEL ATTENDANT SWITCHES.....	12
<i>Activating the Black Panel Switch</i>	12
<i>Activating the Red Panel Switch</i>	12
CLEANING AND MAINTENANCE	13
ACCESSORIES	14
SPECIFICATIONS	15

Overview

Introduction

Congratulations on your purchase of a Quartet Sip n' Puff (QSP) switch. You have selected a high quality, highly reliable instrument designed to give you years of trouble free use.

This device is designed to allow for control of adaptive devices that require a momentary switch closure for operation.

The QSP pneumatic switch is intended to meet the needs of both users and care givers.

- *Users* can achieve full control over devices connected to it by softly puffing or sipping into the switch.
 - *Care attendants* can activate the QSP using the two built-in membrane type switches conveniently located on the label.
-

Features

Features of the QSP are:

- Integrated pneumatic single/dual switch
 - Integrated single/dual attendant switch
 - Two independently configurable single/dual 1/8" outputs
 - Both pneumatic and membrane switches configurable for tip/ring
 - No external power needed to operate the QSP
 - Integrated mounting pad
 - Lightweight
-

Objectives

In this manual you will learn about:

- QSP components
 - Connecting the QSP
 - Configuring the QSP
 - Operating the membrane switches
 - Cleaning and maintenance
 - Accessories
-

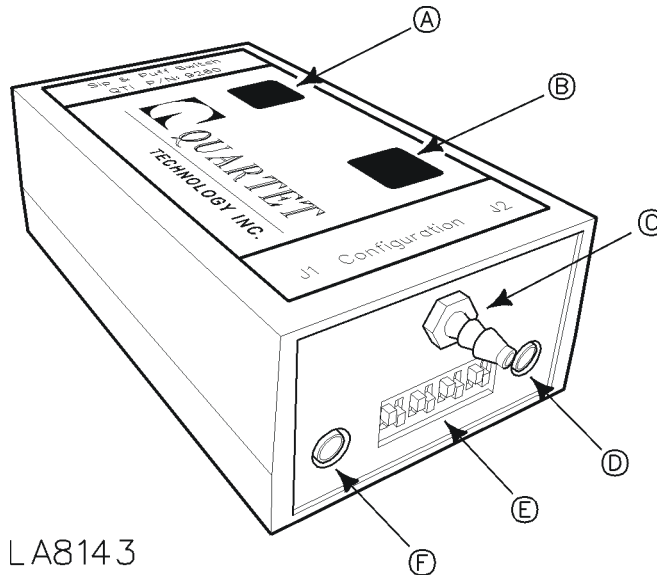
Caution

The QSP is a high quality device. Care should be taken not to drop or otherwise subject it to extreme force.

QSP Components

QSP View

Below is a diagram of the QSP:



QSP Components

The following components are on the QSP:

Letter	Component	Function
A	Black Panel Switch	Front panel attendant switch
B	Red Panel Switch	Front panel attendant switch
C	Air In/Out Port	Barbed connector for attaching tubing. This port is connected directly to the pneumatic switch.
D	Switch Port J2	Stereo jack used to connect adaptive devices.
E	Dipswitch	Configuration dipswitch to control behavior of the red/black attendant switches as well as J1 and J2
F	Switch Port J1	Stereo jack used to connect adaptive devices.

Connecting the QSP

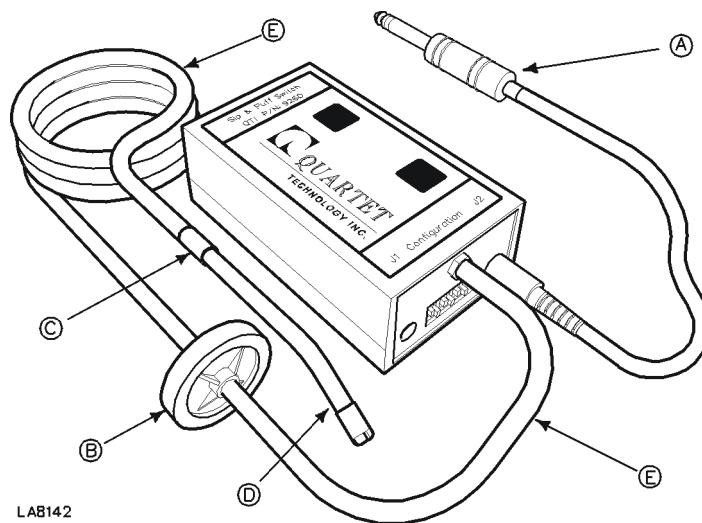
Definition

The QSP is a pneumatic switch that is activated by gently sipping or puffing into the air port as shown below.

Procedure

Complete the following steps to set up the QSP for operation:

1. Cut to desired length tubing (E) supplied in the QSP accessory kit (P/N: 9255).
2. Connect one end of the tubing (E) to the Air Port on the QSP and the other end to one side of the filter (B) as shown below.
3. Connect a desired length of tubing from the other side of the filter to the QSP straw (D) using the barbed union (C) as shown below.
4. Plug the switch cable (A) into either J2 or J1



Configuring the QSP

Definition

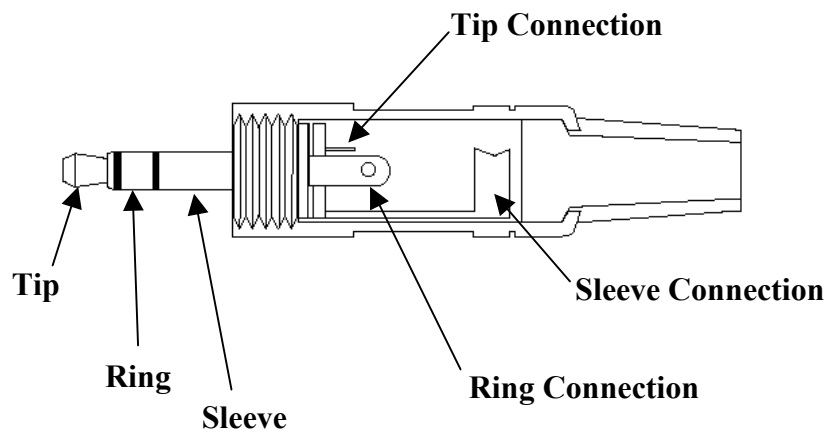
The QSP has two output jacks labeled J1 and J2. Both jacks accept an 1/8" plug and can be configured independent of each other.

An eight position dipswitch is used to configure how the J1, J2, and attendant switches behave.

Stereo Plugs

Before configuring the QSP, it's important to understand what a stereo plug is and the terminology associated with it.

Shown below is a cross-section of a typical stereo plug.



Note

All references in this manual that refer to tip, ring, and sleeve assume the connections as shown above.

Note

Almost all adaptive devices require a connection between tip and sleeve, ring and sleeve, or both.

Configuring the QSP (cont.)

Configuration Table

The following table shows the supported combinations obtained by configuring the dipswitches:

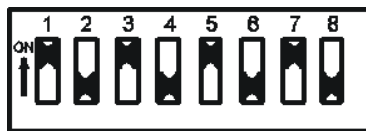
	<i>Selection</i>	<i>Tip</i>	<i>Ring</i>
J1	A	1 = On 2 = Off Sip, Black	3 = On 4 = Off Puff, Red
	B	1 = Off 2 = On Puff, Red	3 = Off 4 = On Sip, Black
J2	C	5 = On 6 = Off Sip, Black	7 = On 8 = Off Puff, Red
	D	5 = Off 6 = On Puff, Red	7 = Off 8 = On Sip, Black

Note

If only *one* row is selected, i.e., A, B, C, or D, then all other switches must be set to the “off” position.

Factory Default

The factory default dipswitch settings are shown below:



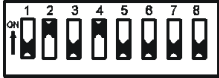



LA8147

This configuration sets J1 per row A above, and J2 per row C above.

Configuring the QSP (cont)

Examples

The following examples illustrate some of the configurations that are possible with the QSP:

Outputs Used	Configuration	Dipswitch
J1 Only	<p>When the QSP is puffed or the red panel switch is pressed, the tip connection of J1 is activated.</p> <p>When the QSP is sipped or the black panel switch is pressed, the ring connection of J1 is activated.</p> <p>Note: Since we will not use the J2 jack, dipswitches 5 thru 8 are set to off.</p>	
J1, J2	<p>When the QSP is sipped or the black panel switch is pressed, the tip connection of J1 is activated.</p> <p>When the QSP is puffed or the red panel switch is pressed, the ring connection of J1 is activated.</p> <p>When the QSP is puffed or the red panel switch is pressed, the tip connection of J2 is activated.</p> <p>When the QSP is sipped or the black panel switch is pressed, the ring connection of J2 is activated.</p>	
J2 Only	<p>When the QSP is puffed or the red panel switch is pressed, the tip connection of J2 is activated.</p> <p>When the QSP is sipped or the black panel switch is pressed, the ring connection of J2 is activated.</p> <p>Note: Since we will not use the J1 jack, dipswitches 1 thru 4 are set to off.</p>	
<p>J1 (Tip only)</p> <p>J2 (Ring only)</p>	<p>When the QSP is puffed or the red panel switch is pressed, the tip connection of J1 is activated.</p> <p>Note: The ring terminal of J1 is not used so switches 3 and 4 are set to “off”.</p> <p>When the QSP is puffed or the red panel switch is pressed, the ring connection of J2 is activated.</p> <p>Note: The tip terminal of J2 is not used so switches 5 and 6 are set to “off”.</p>	

Operating the Front Panel Attendant Switches

Definition

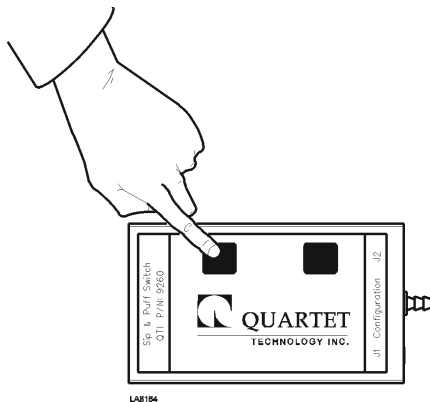
The QSP has two front panel attendant switches, *Black* and *Red*. Care attendants can activate the QSP using these two built-in membrane type switches conveniently located on the label.

Procedure

The following procedure shows how to activate either the Black or Red panel switch:

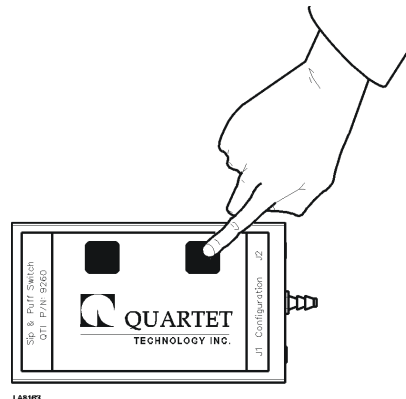
Activating the Black Panel Switch

The Black front panel switch is activated by pressing firmly on the black square pad as shown below.



Activating the Red Panel Switch

The Red front panel switch is activated by pressing firmly on the red square pad as shown below.



Cleaning and Maintenance

Cleaning

You can clean the outside of the QSP with a slightly damp cloth, when necessary. Use water only.

Caution

Do not get any liquid or foreign material in the air port.

Maintenance

The QSP requires no special cleaning or daily maintenance, other than the recommended monthly filter replacement. Contact your authorized Quartet distributor for a replacement filter.

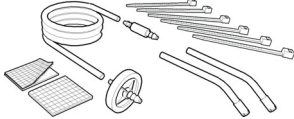
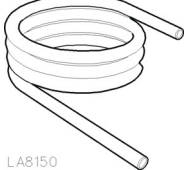
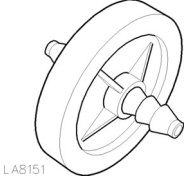
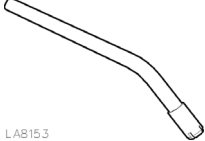
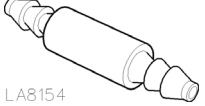
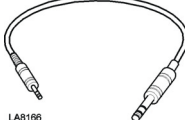

Warning

You should check the filter and QSP straw monthly for safety and integrity. Contact your authorized Quartet distributor for necessary repairs or replacements.

Accessories

Accessories

A complete line of optional accessories to complement the QSP, include:

Accessory	QTI P/N	Description	
QSP Accessory Kit	9255	Includes 10 ft tubing, ty-wraps, barbed union, filter, two QSP straws, and mounting pads.	
Tubing (10ft)	5128	Tubing (1/4" x .170) allows for custom lengths when installing the QSP	 LA8150
Hydrophobic Bi-directional Filter	5053	Replaceable sterile two way filter for trapping moisture and debris	 LA8151
QSP Straw	5091	Replaceable straw used for sipping and puffing into the QSP	 LA8153
Barbed Unions	6192	Allows you to connect tubing or straw/tubing together	 LA8154
Switch Cable (1 Foot)	9256	Provides connection from QSP to Quartet's remote radio package	 LA8166
Switch cable (10 Feet)	9257	Provides connection from QSP to Quartet's ECU's.	 LA8167

Contact Quartet Technology or your authorized distributor for more information.

Specifications

Acceptable Switching Voltage on J1 and J2	30VAC/30VDC maximum
Current (max)	50mA
Operating Temperature	32°F to 104°F (0 to 40°C)
Operating Pressure (Air Port)	3 psi (typical)
Burst Pressure	25 psi
Contact Resistance	1 ohms (typical)
Contact Bounce	30 mS (typical)
Front Panel Switch Activation Force	4-12 oz. (nominal)

(This page left blank intentionally)