

6.0 PGSC-Flight Laptop Configuration Overview

Five configurations have been defined for the PGSC Flight Laptop (all configurations can use the 3Com Ethernet PCMCIA card):

- Standalone with RS-422 PCMCIA Card
- Docked with PC-Decom AT-Bus and RS-422 PCMCIA Cards
- Docked with OCA AT-Bus Card (Ku and PADM)
- Docked with Proshare AT-Bus and RS-422 PCMCIA Cards
- Docked with RS-422 Sealevel AT-Bus Card

All Serial Devices use either IRQ4 or IRQ3 or **IRQ7**. Standard I/O Address Are Used for COM1 through COM4. Note: Sealevel Dual Port RS-422 card also uses IRQ10 for second port (set to COM4).

The Mwave Audio Device Uses IRQ5 in all configurations.

The PCMCIA Network Adapter Uses IRQ9 for all configurations.

All AT-Bus Cards Use IRQ10. The SelectaDock I can only house a single AT-Bus card in each configuration. Note: Sealevel Dual Port RS-422 card also uses IRQ3 for the first port.

All PCI-Related items, including SCSI, use **IRQ15**.

Primary IDE uses IRQ14 and Secondary IDE **has been disabled**.

IRQ3 and IRQ9 can be used by removing either the RS-422 PCMCIA card or the Ethernet PCMCIA card, respectively.

The RS-422 PCMCIA card and OCA/PADM cannot be installed on the same PGSC system due to interrupt and I/O address conflicts.

6.1 PGSC Flight Laptop IRQ Table

The following table lists the interrupt allocations for all configurations. The IRQs are arranged numerically:

IRQ 0 -	System timer
IRQ 1 -	Keyboard
IRQ 2 -	Cascade to IRQ9
IRQ 3 -	OCA (PADM) or Sealevel RS- 422 Port #1 (COM2)
IRQ 4 -	Built-In RS-232 (COM1)
IRQ 5 -	MWave Audio
IRQ 6 -	Floppy Diskette Controller
IRQ 7 -	Parallel Port, Quatech Dual Port RS-422 (COM2 and COM4)
IRQ 8 -	Real Time Clock
IRQ 9 -	3Com Ethernet
IRQ 10-	PC-Decom, OCA (Ku), or Proshare
IRQ 11-	Unused
IRQ 12-	Trackpoint III
IRQ 13-	Math Coprocessor
IRQ 14-	HDD / CD-ROM (Primary IDE)
IRQ 15-	PCI/SCSI IRQ

6.2 *PGSC Flight Laptop I/O Address Table*

The following table lists the I/O Address allocations for all configurations. The addresses are arranged numerically (devices which use non-contiguous address will appear multiple times):

Timer	0040-0043
Keyboard	0060, 0064
Mouse	0060, 0064
RTC	0070-0071
HDD/CD	01F0-01F7
OCA/PADM	0200-0221
Proshare	0224-0227
PC-Decom	0238-023F
Proshare	0240-024F
OCA/Ku	02E0-02E7
COM4(422)	02E8-02EF
COM2(422)	02F8-02FF
3Com Ethernet	0300-030F
Video	03B4-03B5, 03BA
LPT1(Prt)	03BC-03BE
Video	03C0-03CF, 03D4-03D5, 03D8-03DA
PCMCIA	03E0-03E1
PCMCIA Dock	03E2-03E3
COM3	03E8-03EF
FDD	03F0-03F7
CD	03F6-03F7
COM1(232)	03F8-03FF
Video	2100-21FF
Video	43C6-43C9
Video	46E8
Mwave	4E30-4E3F
Video	83C6-83C9
SD-I SCSI II	Set By System Only

6.3 *PGSC Flight Laptop DMA Channel Table*

The following table lists the DMA Channel allocations for all configurations. The addresses are arranged numerically:

DMA Channels:

0	Unused
1	PC-Decom
2	FDD
3	PC-Decom
4	Unused
5	Unused
6	Unused
7	Mwave

6.4 *PGSC Flight Laptop Memory Address Allocations*

The following table lists the memory addresses that should be excluded for DOS applications when using an upper memory manager (such as EMM386). In addition to the address shows, memory used by a PCMCIA adapter card should also be excluded. This restriction does not apply to Windows 95 users.

Memory Addresses:

A0000-BFFFF Video
C0000-C7FFF Video

6.5 Configuration #1

6.5.1 Configuration #1 - Standalone with Dual Port RS-422 PC-Card (PCMCIA Card)

Com Port Description	COM Number	IRQ Number	I/O Address Locations	DMA Channel	Controller
Internal RS-232D	COM1	IRQ4	03F8-03FF	N/A	16550 UART Equivalent
PC-Card #1 RS-422 #1	COM2	IRQ7	02F8-02FF	N/A	16550 UART Equivalent
PC-Card #1 RS-422 #2	COM4	IRQ7	02E8-02EF	N/A	16550 UART Equivalent
PC-Card #2	N/A	IRQ9	0300-030F	N/A	PC-Card
3Com Ethernet Available	N/A	IRQ10	N/A	N/A	N/A

6.5.2 Configuration #1 - Standalone with RS-422 Usage Table

Interrupt Number	Device	I/O Address	DMA Channel	
IRQ0	Timer	0040-0043	N/A	
IRQ1	Keyboard	0060, 0064	N/A	
IRQ2	Cascade Int	N/A	N/A	
IRQ3	Unused	02F8-02FF 02E8-02EF	N/A	
IRQ4	RS-232 on ThinkPad	03F8-03FF	N/A	
IRQ5	Mwave Audio	4E30-4E3F	7	
IRQ6	Floppy Drive Controller	03F0-03F7	2	
IRQ7	Parallel Port, RS-422	0140-015F, 02F8-02FF, 02E8-02EF		N/A
IRQ8	Real Time Clock	0070-0071	N/A	
IRQ9	Ethernet PC-Card	0300-030F	N/A	
IRQ10	Unused	N/A	N/A	
IRQ11	Unused	N/A	N/A	
IRQ12	TrackPoint III Pointing Device	0060, 0064	N/A	
IRQ13	Math Coprocessor	N/A	N/A	
IRQ14	Primary IDE	01F0-01F7	N/A	
IRQ15	PCI/SCSI IRQ	0170-0177	N/A	

6.6 Configuration #2

6.6.1 Configuration #2 - SelectaDock I with PC-Decom (AT-Bus) Card and Dual Port RS-422 PC-Card (PCMCIA Card)

Com Port Description	COM Number	IRQ Number	I/O Address Locations	DMA Channel	Controller
Internal RS-232D	COM1	IRQ4	03F8-03FF	N/A	16550 UART Equivalent
PC-Card #1 RS-422 #1	COM2	IRQ7	02F8-02FF	N/A	16550 UART Equivalent
PC-Card #1 RS-422 #2	COM4	IRQ7	02E8-02EF	N/A	16550 UART Equivalent
PC-Decom AT-Bus	SCC1A and SCC1B	IRQ10	0238-023F	1 and 3	Zilog 8530
SCSI-II Adapter	N/A	IRQ15	Set By System	N/A	Internal to SelectaDock I
PC-Card #2 3Com Ethernet	N/A	IRQ9	0300-030F	N/A	PC-Card

6.6.2 Configuration #2 - PC-Decom and RS-422 Usage Table

Interrupt Number	Device	I/O Address	DMA Channel	
IRQ0	Timer	0040-0043	N/A	
IRQ1	Keyboard	0060, 0064	N/A	
IRQ2	Cascade Int	N/A	N/A	
IRQ3	Unused	N/A	N/A	
IRQ4	RS-232 on ThinkPad	03F8-03FF	N/A	
IRQ5	Mwave Audio	4E30-4E3F	7	
IRQ6	Floppy Drive Controller	03F0-03F7	2	
IRQ7	Parallel Port, RS-422 Ports	0140-015F,	02F8-02FF,	02E8-02EF N/A
IRQ8	Real Time Clock	0070-0071	N/A	
IRQ9	Ethernet PC-Card	0300-030F	N/A	
IRQ10	PC-Decom	0238-023F	1 and 3	
IRQ11	Unused	Set by System	N/A	
IRQ12	TrackPoint III Pointing Device	0060, 0064	N/A	
IRQ13	Math Coprocessor	N/A	N/A	
IRQ14	Primary IDE	01F0-01F7	N/A	
IRQ15	PCI/SCSI IRQ	0170-0177	N/A	

6.7 Configuration #3

6.7.1 Configuration #3 - SelectaDock I with OCA (AT-Bus) Card

Com Port Description	COM Number	IRQ Number	I/O Address Locations	DMA Channel	Controller
Internal RS-232D OCA/PADM	COM1	IRQ4	03F8-03FF	N/A	16550 UART Equivalent
AT-Bus OCA/Ku-Band	COM2	IRQ3	02F8-02FF	N/A	Unique
AT-Bus SCSI-II Adapter	N/A	IRQ10	0200-0221	N/A	Unique
PC-Card #1	N/A	IRQ9	02E0-02E7	N/A	Unique
3Com Ethernet	N/A	IRQ15 (PCI)	Selected by System	N/A	Internal to SelectaDock I
	N/A	IRQ9	0300-030F	N/A	PC-Card

6.7.2 Configuration #3 - OCA Usage Table

Interrupt Number	Device	I/O Address	DMA Channel
IRQ0	Timer	0040-0043	N/A
IRQ1	Keyboard	0060, 0064	N/A
IRQ2	Cascade Int	N/A	N/A
IRQ3	OCA/PADM	0200-0221	N/A
		02F8-02FF	
IRQ4	RS-232 on ThinkPad	03F8-03FF	N/A
IRQ5	Mwave Audio	4E30-4E3F	7
IRQ6	Floppy Drive Controller	03F0-03F7	2
IRQ7	Parallel Port	0140-015F	N/A
IRQ8	Real Time Clock	0070-0071	N/A
IRQ9	Ethernet PC-Card	0300-030F	N/A
IRQ10	OCA/Ku Band	02E0-02E7	N/A
IRQ11	Unused	Set By System	N/A
IRQ12	TrackPoint III Pointing Device	0060, 0064	N/A
IRQ13	Math Coprocessor	N/A	N/A
IRQ14	Primary IDE	01F0-01F7	N/A
IRQ15	PCI/SCSI IRQ	0170-0177	N/A

6.8 Configuration #4

6.8.1 Configuration #4 - SelectaDock I with Proshare (AT-Bus) Card and Dual Port RS-422 PC-Card (PCMCIA Card)

Com Port Description	COM Number	IRQ Number	I/O Address Locations	DMA Channel	Controller
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Internal RS-232D	COM1	IRQ4	03F8-03FF	N/A	16550 UART Equivalent
PC-Card #1 RS-422 #1	COM2	IRQ7	02F8-02FF	N/A	16550 UART Equivalent
PC-Card #1 RS-422 #2	COM4	IRQ7	02E8-02EF	N/A	16550 UART Equivalent
Proshare AT-Bus	N/A	IRQ10	0224-0227	N/A	Unique
SCSI-II Adapter	N/A	IRQ15 (PCI)	Selected by System	N/A	Internal to SelectaDock I
PC-Card #2 3Com Ethernet	N/A	IRQ9	0300-030F	N/A	PC-Card

6.8.2 Configuration #4 - Proshare and RS-422 Usage Table

Interrupt Number	Device	I/O Address	DMA Channel		
IRQ0	Timer	0040-0043	N/A		
IRQ1	Keyboard	0060, 0064	N/A		
IRQ2	Cascade Int	N/A	N/A		
IRQ3	Unused		N/A		
IRQ4	RS-232 on ThinkPad	03F8-03FF	N/A		
IRQ5	Mwave Audio	4E30-4E3F	7		
IRQ6	Floppy Drive Controller	03F0-03F7	2		
IRQ7	Parallel Port, RS-422	0140-015F,		02F8-02FF,	02E8-02EF N/A
IRQ8	Real Time Clock	0070-0071	N/A		
IRQ9	Ethernet PC-Card	0300-030F	N/A		
IRQ10	Proshare	0224-0227	N/A		
		0240-024F			
IRQ11	Unused	Set By System	N/A		
IRQ12	TrackPoint III Pointing Device	0060, 0064	N/A		
IRQ13	Math Coprocessor	N/A	N/A		
IRQ14	Primary IDE	01F0-01F7	N/A		
IRQ15	PCI/SCSI	0170-0177	N/A		

6.9 Configuration #5

6.9.1 Configuration #5 - SelectaDock I with Dual Port RS-422 Sealevel AT-Bus Card

Com Port Description	COM Number	IRQ Number	I/O Address Locations	DMA Channel	Controller
Internal RS-232D	COM1	IRQ4	03F8-03FF	N/A	16550 UART Equivalent

Sealevel AT-Bus RS-422 #1	COM2	IRQ3	02F8-02FF	N/A	16550 UART Equivalent
Sealevel AT-Bus RS-422 #2	COM4	IRQ10	02E8-02EF	N/A	16550 UART Equivalent
PC-Card #2 3Com Ethernet	N/A	IRQ9	0300-030F	N/A	PC-Card
SCSI II Adapter	N/A	IRQ15 (PCI)	N/A	N/A	Internal to SelectaDock I

6.9.2 Configuration #5 - SelectaDock I with Dual Port RS-422 Sealevel Usage Table

Interrupt Number	Device	I/O Address	DMA Channel
IRQ0	Timer	0040-0043	N/A
IRQ1	Keyboard	0060, 0064	N/A
IRQ2	Cascade Int	N/A	N/A
IRQ3	RS-422 Port #1 (COM2)	02F8-02FF	N/A
IRQ4	RS-232 on ThinkPad	03F8-03FF	N/A
IRQ5	Mwave Audio	4E30-4E3F	7
IRQ6	Floppy Drive Controller	03F0-03F7	2
IRQ7	Parallel Port	0140-015F	N/A
IRQ8	Real Time Clock	0070-0071	N/A
IRQ9	Ethernet PC-Card	0300-030F	N/A
IRQ10	RS-422 Port #2 (COM4)	02E8-02EF	N/A
IRQ11	Unused	Set by System	N/A
IRQ12	TrackPoint III Pointing Device	0060, 0064	N/A
IRQ13	Math Coprocessor	N/A	N/A
IRQ14	Primary IDE	01F0-01F7	N/A
IRQ15	PCI/SCSI	0170-0177	N/A