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## **What is PC-Duo?**

PC-Duo is a fully featured Remote Control package that provides access to workstations on both local and remote networks as well as dial in access to a standalone PC. The package includes support for both Windows and DOS.

There are three components that make up the PC-Duo product. These are:-

The Control Programs.

The Slave Programs.

The Remote Communication Programs.

All three components, in both Windows and DOS formats are included with the standard package.

The main features of the package are:-

### **Remote Control**

Watch, Share or Control the screen and keyboard of a remote Slave.

### **Message**

Send a message to one or more Slaves.

### **Chat**

Provide two way chat sessions between a Control and Slave.

### **File Transfer**

Transfer and manipulate files between the Control and Slave or vice versa.

### **Remote Communications**

Take control of workstations on remote LANs or standalones via dial up or ISDN.

### **Show**

Display the Controls screen on a Slave or multiple Slaves.

The package also includes a wide range of security, configuration and automation options to enable it to be tailored to your exact needs.

# The Slave Programs (SLAVE, IPSLAVE & WSLAVE)

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## Slave Overview

Before a workstation can be accessed from a Control, the Slave TSR must be loaded from the DOS prompt. There are two versions:-

**SLAVE.EXE** For use with NetBIOS compatible networks (including NetBEUI).

**IPSLAVE.EXE** For use with IPX/SPX compatible networks and standalones.

In addition a further program is loaded from Windows to support Windows Slaves:-

**WSLAVE.EXE** For use with both NetBIOS and IPX.

You can use switches when loading the Slave TSR to tailor the access and security on the Slave to meet your exact needs.

### Before Loading a Slave:

Ensure that the Network drivers and NetBIOS or IPX are loaded.

Choose a unique name for each Slave. We suggest that you choose a meaningful name such as JOHNS\_PC or ACCOUNTS so that it will be recognised when it is displayed at the Control screen.

### Rules for Slavename:

The Slavename must be one word.

The maximum length of a Slavename is 15 characters.

You must not use reserved DOS characters such as \, \*, ? or | in the Slavename.

### Command:

The full command line for loading a Slave is:

```
(IP)SLAVE Slavename [password] [/O /A /B /E /X /F /Gnn /I /K /Ln /Mnn /Nn /r /R  
/Vnnnnnnnn /W]
```

Typing (IP)Slave on its own at the DOS prompt displays a summary of the Command line parameters

We recommend that you load the Slave as part of the AUTOEXEC.BAT file at boot up. This will allow the Slave PC to be accessed by a Control PC at any time. If a user is having problems with an application you will be able to provide instant support from Control without the user exiting the application, loading the Slave, and then trying to recreate the problem.

## Load a Basic Slave

**Command:** (IP)SLAVE Slavename

**Example:** SLAVE JOHN

### **Effect:**

The Slave will be available for connection or selection. It will also be able to receive broadcast messages.

### **Use this option if:**

You want the Slave to be available to all Control operators without restriction.

You do not require additional security on the Slave.

### **Notes:**

You can also replace *Slavename* with an \* (asterisk) if you have set the DOS Machine Name. The Slavename then becomes the same as the DOS Machine Name.

On NetBIOS networks this will normally have been set during Network Configuration. For IPX Networks you will probably need to use the SetMName program provided with PC-Duo.

You must use real mode drivers for Windows for Workgroups under NetBEUI.

The network drivers must be loaded before you start the Slave.

The Slave TSR must be loaded from the DOS command line.

The Slave TSR must be loaded before you start Windows.

## **Load the Slave with a Password**

**Command:**        (IP)SLAVE Slavename Password

**Example:** SLAVE JOHN 9768633

### **Effect:**

The Control user will be required to enter a password before obtaining access to the Slave.

### **Use this option if:**

You wish to restrict access to the Slave to authorised Control operators only.

### **Notes:**

The password must be generated using the CALCPSW program

The Control operator must enter the original password not the encrypted one.

The Slave TSR must be loaded from the DOS command line.

The Slave TSR must be loaded before you start Windows.

The network drivers must be loaded before you start the Slave.

## **Load the Slave with an acknowledgement (/K)**

**Command:**        **(IP)SLAVE *Slavename* /K**

**Example:** **SLAVE JOHN /K**

### **Effect:**

The user at the Slave will have to press the Y key before access is granted.

### **Use this option if:**

You wish to ensure that the user is present before accessing the Slave.  
The user wants to retain control over who has access to their workstation.

### **Notes:**

The Slave user must explicitly accept a request from Control to connect.  
The Slave TSR must be loaded from the DOS command line.  
The Slave TSR must be loaded before you start Windows.  
The network drivers must be loaded before you start the Slave.

## **Load the Slave with an acknowledgement and a password**

**Command:**        **(IP)SLAVE *Slavename Password* /K**

**Example:** **SLAVE JOHN 976833 /K**

### **Effect:**

The Control user will be required to enter a password and the user at the Slave press a key before access is allowed.

### **Use this option if:**

You want both password and acknowledgement protection at the Slave.

### **Notes:**

The password must be generated using the CALCPSW program.

The Control operator must enter the original password.

The Slave user must explicitly accept a request from Control to connect.

The Slave TSR must be loaded from the DOS command line.

The Slave TSR must be loaded before you start Windows.

The network drivers must be loaded before you start the Slave.



## **Use an alternate network adapter (/An) (NetBIOS version)**

**Command:** (IP)SLAVE *Slavename* /An

**Example:** SLAVE JOHN /A1

### **Effect:**

Slave will use NetBIOS network adapter 1

### **Use this option if:**

You have more than one network adapter installed and wish the Slave to communicate through a specific adapter.

### **Notes:**

Only applies to NetBIOS version.

n must be in the range 0 to 9.

The Slave TSR must be loaded from the DOS command line.

The Slave TSR must be loaded before you start Windows.

The network drivers must be loaded before you start the Slave.

## **Enable incoming Broadcast Show(/B)**

**Command:** (IP)SLAVE *Slavename* /B

**Example:** (IP)SLAVE JOHN /B

### **Effect:**

Enables the Slave to receive an incoming Broadcast show even when not connected or selected. The default is disabled.

### **Use this option if:**

If you want to enable the Slave to receive Broadcast shows.

### **Notes:**

Broadcast receive is disabled by default. **Use this switch with caution to avoid network overload.**

The Slave TSR must be loaded from the DOS command line.

The Slave TSR must be loaded before you start Windows.

The network drivers must be loaded before you start the Slave.

## **Load the Slave into EMS(/E)**

**Command:**        (IP)SLAVE *Slavename* /E

**Example:** SLAVE JOHN /E

### **Effect:**

The Slave will be loaded into EMS memory (if available). This reduces the DOS memory requirement to approx. 8 KB.

### **Use this option if:**

You are low on low memory.

You have an EMS driver loaded.

You will only be using the Slave in DOS.

### **Notes:**

EMS memory must be available.

Must not be used if the Slave will be running under Windows.

The Slave TSR must be loaded from the DOS command line.

The network drivers must be loaded before you start the Slave.

**It is preferable to use Loadhigh if possible E.g. LH SLAVE *Slavename* as this results in zero conventional memory use.**

## **Load the Slave into XMS(/X)**

**Command:**        **(IP)SLAVE *Slavename* /X**

**Example:** **SLAVE JOHN /X**

### **Effect:**

The Slave will be loaded into XMS memory (if available). This reduces the DOS memory requirement to approximately. 8 KB.

### **Use this option if:**

You are low on low memory.

You have an XMS driver loaded.

You will not be loading other programs that require XMS.

### **Notes:**

XMS memory must be available. (It will not if you have DOS=High in your Config.sys.)

This switch refers to the first 64KB above 1MB.

The Slave TSR must be loaded from the DOS command line.

The Slave TSR must be loaded before you start Windows.

The network drivers must be loaded before you start the Slave.

**It is preferable to use Loadhigh if possible E.g. LH SLAVE *Slavename* as this results in zero conventional memory use.**

This option is only useful if you are not using other programs that require XMS.

## **Disable file transfer on the Slave(/F)**

**Command:**        **(IP)SLAVE *Slavename* /F**

**Example:** **SLAVE JOHN /F**

### **Effect:**

Control will be prevented from doing File Transfers and manipulation on Slave.  
Approximately. 1.5KB Memory will be saved.

### **Use this option if:**

You wish to prevent file transfer or manipulation.  
You are low on conventional memory and have alternative ways to transfer files.

### **Notes:**

The Slave TSR must be loaded from the DOS command line.  
The Slave TSR must be loaded before you start Windows.  
The network drivers must be loaded before you start the Slave.  
Use in conjunction with Watch only (/W) to tailor security.

## **Set Super VGA mode (/Gnn) (DOS Slaves only)**

**Command:**        **(IP)SLAVE *Slavename* /Gnn**

**Example: SLAVE JOHN /G7A**

### **Effect:**

Enables SVGA support (800 x 600 x 16) on DOS Slaves.

### **Use this option if:**

You are using DOS Slaves in SVGA mode.

### **Notes:**

*nn* is the hexadecimal SVGA video mode. Refer to the manual with SVGA card to determine the mode or note the video mode in the error message displayed at the Control when trying to connect.

This switch is not required if you are using a Windows Control.

The Slave TSR must be loaded from the DOS command line.

The Slave TSR must be loaded before you start Windows.

The network drivers must be loaded before you start the Slave.

## **Disable Incoming Broadcast Messages (/I)**

**Command:**        (IP)SLAVE *Slavename* /I

**Example:** SLAVE JOHN /I

### **Effect:**

Prevents the Slave from receiving an incoming Broadcast message. Default is Broadcast Message enabled.

### **Use this option if:**

You wish to prevent broadcast messages interrupting work on the Slave.

### **Notes:**

The Slave TSR must be loaded from the DOS command line.

The Slave TSR must be loaded before you start Windows.

The network drivers must be loaded before you start the Slave.

## **Set the Message time-out (/Mnn)**

**Command:** (IP)SLAVE *Slavename* /Mnn

**Example:** SLAVE JOHN /M10

### **Effect:**

When a message is received it is displayed on the screen and the Slave ceases other work until the message is cleared or timed out. By default the time out is 30 Minutes. To reduce this, set the number of minutes *nn* that the Slave will wait before automatically clearing the message.

### **Use this option if:**

You wish to prevent messages interrupting or delaying work on the Slave.

### **Notes:**

This time-out only applies to the DOS Slave; the Windows Slave ignores it.

The default time out is 30 minutes.

To deactivate time out (Continuous display) set *nn* to 0 (/M0)

Minimum setting is 1; Maximum setting is 30

Use /I to prevent incoming broadcast messages altogether.

The Slave TSR must be loaded from the DOS command line.

The Slave TSR must be loaded before you start Windows.

The network drivers must be loaded before you start the Slave.



## **Set the number of Transmit and Receive buffers (/Nn)**

**Command:** (IP)SLAVE *Slavename* /Nn

**Example:** SLAVE JOHN /N3

### **Effect:**

Communications between Slave and Control are monitored to ensure that all packets are received correctly. By default the Slave sends two packets before awaiting confirmation of successful receipt at Control. No more data is sent until Control acknowledges. Increasing the Transmit buffers means that Slave can send more information before requesting confirmation. This can improve performance particularly over a WAN or modem link.

### **Use this option if:**

You wish to tune the Slave for higher performance and have a reliable link.  
You are low on memory (set N to 1)

### **Notes:**

The minimum buffers is 1 and the maximum buffers are 3. The default is 2 Buffers.  
Each buffer takes approx. 900 bytes of memory.  
The Slave TSR must be loaded from the DOS command line.  
The Slave TSR must be loaded before you start Windows.  
The network drivers must be loaded before you start the Slave.

## **Automatically Reboot the Slave.(/R)**

**Command:** (IP)SLAVE *Slavename* /R(nnnnnnnn)

**Example:** SLAVE JOHN /R

### **Effect:**

When the Control disconnects the Slave will reboot. If nnnnnnnn is appended the reboot vector will also be changed from the default of F000FF0.

### **Use this option if:**

You wish to reboot Slaves connected to in unattended mode.  
You are satisfied that rebooting will not result in data loss or corruption.

### **Notes:**

Be wary of rebooting Slaves in an unknown state as data loss or corruption may result. It is safer to reboot from the option in Control.

Do not set nnnnnnnn unless you are **very confident** that you know the correct address.

The Slave TSR must be loaded from the DOS command line.

The Slave TSR must be loaded before you start Windows.

The network drivers must be loaded before you start the Slave.

See also /r Set Reboot Vector.

## **Set Inactivity Time-out.(/T)**

**Command:**        (IP)SLAVE *Slavename* /Tnn

**Example:** SLAVE JOHN /T10

### **Effect:**

If a Control connects the Slave but does not otherwise carry out any activity such as watching its screen or sending a message for 10 minutes, the Slave will assume that the connection is no longer required and disconnect automatically. This will mean that the Slave is then available for other Controls to connect to.

### **Use this option if:**

You are using a PC-Duo Slave to provide access to a shared resource such as a special printer and you want to avoid a single Control operator monopolising the connection.

### **Notes:**

NN refers to minutes and must be in the range 0 to 30.  
The default is 0 = Never.

## **Set Reboot vector (/r nnnnnnnn)**

**Command:**        **(IP)SLAVE *Slavename* /rnnnnnnnn**

**Example:** **SLAVE JOHN /rnnnnnnnn**

### **Effect:**

Certain programs can cause the reboot vector of a workstation to be moved from the default of F000FFF0. Should this occur use the /r switch to follow it.

### **Use this option if:**

The default vector does not reboot the Slave correctly.

You are able to identify the correct reboot vector.

### **Notes:**

**Take extreme care when re-setting reboot vectors to avoid corruption.**

Do not set nnnnnnnn unless you are **very confident** that you know the correct address.

If you also want the Slave to automatically reboot use /R not /r

The Slave TSR must be loaded from the DOS command line.

The Slave TSR must be loaded before you start Windows.

The network drivers must be loaded before you start the Slave.

## **Set Software Interrupt Vector (/V)**

**Command:** (IP)SLAVE Slavename /Vnn

**Example:** SLAVE JOHN /V61

### **Effect:**

When a Slave loads it attaches itself to the first free software interrupt that it finds in the range Hex 60 to 66. You can force the Slave to attach to a particular interrupt in this range by using the /V switch.

### **Use this option if:**

You suspect that another program is using taking over the Slaves interrupt at a later point in time or if the Slave reports no interrupt vectors free.

### **Notes:**

Ensure that this vector is not required by another program.  
The Slave TSR must be loaded from the DOS command line.  
The Slave TSR must be loaded before you start Windows.  
The network drivers must be loaded before you start the Slave.

## **Set the Slave to permit Control to Watch only (/W)**

**Command:** (IP)SLAVE *Slavename* /W

**Example:** SLAVE JOHN /W

### **Effect:**

Restricts Control Access to Watch only.

### **Use this option if:**

You wish to restrict the access a Control operator has to watch only.

### **Notes:**

Use in conjunction with /F switch to also prevent File Transfer.

The Slave TSR must be loaded from the DOS command line.

The Slave TSR must be loaded before you start Windows.

The network drivers must be loaded before you start the Slave.

## **Unload a Slave from memory (/U)**

**Command:** (IP)SLAVE /U

**Example:** SLAVE /U

### **Effect:**

Unloads the Slave TSR from DOS memory.

### **Use this option if:**

You wish to unload a Slave from memory.

### **Notes:**

Must be run from the DOS Command line.  
TSRs loaded after Slave must be unloaded first.

## **Set the Name Lookup delay (/L)**

**Command:** (IP)SLAVE *Slavename* /Ln

**Example:** SLAVE JOHN /L6

### **Effect:**

When a Slave starts up or a Control does a dynamic name lookup to list available Slaves it causes them to Report in their name and network address. The /L option causes the Slaves to stagger their sign in over a longer period and thus reduce the chances of a network traffic jam.

### **Use this option if:**

You have a large number of Slaves on the Network and wish to stagger their responses to a request "sign in" in order to spread the network load.

### **Notes:**

$n$  must be in the range of 0 to 6 (seconds).

The actual staggered response is random i.e. it will be between 0 and  $n$  seconds.

Increasing the lookup delay will also increase the loading and lookup time.

The default is 0 (respond within 1 second).

The Slave TSR must be loaded from the DOS command line.

The Slave TSR must be loaded before you start Windows.

The network drivers must be loaded before you start the Slave.



## **Turn off colour palette send on Slave (/0)**

**Command:** (IP)SLAVE *Slavename* /0

**Example:** SLAVE JOHN /0

### **Effect:**

A Slave normally sends the colour palette and Digital-to-Analog Converter (DAC) registers it is using to the Control when the Control selects it. With some programs or VGA cards this may cause the Colours on the Control to display incorrectly. An example symptom is that the Control screen is unreadable because the background and foreground colours are the same. Turning off the colour palette send overcomes this problem.

### **Use this option if:**

Incorrect colours on the Control screen are causing it to be unreadable.  
The Slave has a monochrome monitor and the Control a colour monitor.

### **Notes:**

This is normally only required for DOS Slaves. Windows screens are handled differently.  
The Slave TSR must be loaded from the DOS command line.  
The Slave TSR must be loaded before you start Windows.  
The network drivers must be loaded before you start the Slave.

## **Set Slavename to be DOS Machine Name (\*)**

**Command:** (IP)SLAVE \*

**Example:** SLAVE \*

### **Effect:**

On NetBIOS networks a DOS Machine Name is usually defined during the network Setup. You can use this switch to default the Slavename to be the same as the DOS Machine Name. This can greatly simplify the allocation of Slave names.

The DOS Machine Name can also be set on IPX networks, using the [SETMNAME program](#).

### **Use this option if:**

Setting the DOS Machine Name is your preferred way of naming Slaves and Controls on the network.

### **Notes:**

The DOS Machine Name can also be used to name the control.

The DOS Machine Name must be set first.

The Slave TSR must be loaded from the DOS command line.

The Slave TSR must be loaded before you start Windows.

The network drivers must be loaded before you start the Slave.

# The Control Programs

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## Control Overview

The Control program is run on the workstation that will be used for controlling or accessing the Slaves.

There are four versions:-

<b>CONTROL.EXE</b>	For running a DOS Control on NetBIOS/NetBEUI Networks.
<b>WCONTROL.EXE</b>	For running a Windows Control on NetBIOS/NetBEUI networks.
<b>IPCONTRL.EXE</b>	For running a DOS Control on IPX/SPX Networks.
<b>WIPCNTRL.EXE</b>	for running a Windows Control on IPX/SPX Networks.

Both the DOS and Windows versions can control DOS or Windows Slaves but the Windows versions have additional features that improve performance when controlling Windows and DOS Slaves.

### Before Starting a Control:

Ensure that the Network drivers and NetBIOS/NetBEUI or IPX/SPX are loaded.  
If it is a Windows Control ensure that network support has been installed.  
Choose a unique name for the Control.

### Rules for Control Name:

The Control name must be one word.  
The maximum length of a Control name is 12 characters.  
Do not use reserved DOS characters such as \, \*, ? or | in the name.

### Command:

The full command for starting a Control is:-

**CONTROL** or **IPCONTRL** or **WCONTROL** or **WIPCNTRL** (depending on DOS or Windows and NetBIOS/NetBEUI or IPX/SPX) **Controlname** [/O /1 /An /B /BA /CSlavename /Dtelephonenumber /Gnn /L /Mmessagefile /Snn]

## Concepts

There are three ways in which a Control can link to a Slave and it is important that these be understood. The main concepts are:-

### **Available Slave**

When a Slave has been activated (by loading the (IP)SLAVE.EXE program from DOS) it becomes available for access from Control. Control can broadcast a Message or a Show to all available Slaves. A Slave must be available before a Control can connect to it.

### **Connected Slave.**

A Slave or a group of up to thirty Slaves can be chosen for simultaneous connection. When a Slave or Slaves are connected, Control can send a Message or Show to those Slaves only rather than all available Slaves. Connecting to a Slave also makes it available for Selection for a one to one session.

### **Selected Slave.**

When a connected Slave is selected, a "one to one" session is established. Control can then send a message or show to that Slave only. Control can also Watch, Control or Share the Slaves screen and keyboard.

Both the Control and the Selected Slave can open a chat session and the Control can also initiate two way file transfers between it and the Selected Slave and manipulates files thereon.

Control can Hotkey between connected Slaves making them the Selected Slave.

## **Sequence of events**

To take control of an individual Slave you must therefore:-

1. Ensure that the Slave TSR has been loaded on the workstation to be controlled(The Slave)
2. Start a Control.
3. Connect to the Slave.
4. Select the Slave.

## The Main Menu



### **PURPOSE**

The Main Menu is the Control users interface for making choices from drop down menus or the icons on the Toolbar. The options are:-

#### Slaves Menu

Provides access to the Broadcast and Connection functions.

#### Selected Slave Menu

Provides access to the one to one functions such as Remote Control.

#### Configure Menu

Provides access to the configuration functions such as keyboard layout and modem selection.

#### Communications Menu

Starts up communication functions including File Transfer.

## Starting a DOS Control

**Command:**        **CONTROL (or IPCONTRL) *Controlname***

**Example:** **CONTROL SUPPORT**

### **Effect:**

Starts a DOS NetBIOS/NetBEUI Control session.

### **Use this option if:**

You do not have Windows and can not load the Windows Control program.

You want to connect to a DOS Slave running DOS Graphics.

You want to show the DOS host screen to DOS or Windows Slaves.

### **Rules for Control Name:**

The Control name must be one word.

The maximum length of a Control name is 12 characters.

Do not use reserved DOS characters such as \, \*, ? or | in the name

### **Notes:**

You can replace Controlname with an \* (asterisk) if you have set the DOS Machine Name (see SETMNAME)

The default Control name is "Operator". Typing Control only will use this name.

You can have multiple controls on the network provided that each has a unique name.

The network drivers must be loaded before you start the Control.

## Starting a Windows Control

**Command:**        **WCONTROL or WIPCNTRL *Controlname***

**Example:** **WCONTROL SUPPORT**

**Effect:**

Starts a Windows NetBIOS Control session.

**Use this option if:**

You wish to start a Windows Control Session.

**Rules for Control Name:**

The Control name must be one word.

The maximum length of a Control name is 12 characters.

Do not use reserved DOS characters such as \, \*, ? or | in the name

**Notes:**

You can replace Controlname with an \* (asterisk) if you have set the DOS Machine Name (see SETMNAME)

Normally you would click on the Control icon.

Network support must have been installed for Windows.

Must be started from within Windows.

The default Control name is "Operator".

If you are starting from an Icon add the name parameter to the icon properties.

You can have multiple controls on the network provided each has a unique name.



## **Turn off Control colour palette send on Control (/0)**

**Command:**       **CONTROL (or IPCONTRL) *Controlname* /0**

**Example:** **CONTROL JOHN /0**

### **Effect:**

A DOS Control normally sends the colour palette and DAC registers it is using to the Slave when the Control is showing to it. With some programs or VGA cards this may cause the Colours on the Slave to display incorrectly.

An example symptom is that the Slave screen is unreadable because the background and foreground colours are the same. Turning off the colour palette send overcomes this problem.

### **Use this option if:**

Incorrect colours on the Slave screen are causing the show to be unreadable.  
The Control has a monochrome monitor and the Slave a colour monitor.

### **Notes:**

Only applies to DOS Controls.

The default Control name is "Operator".

The network drivers must be loaded before you start the Control.

## **Force Monochrome Control operation (/1)**

**Command:**        **CONTROL (or IPCONTRL) *Controlname* /1**

**Example:** **CONTROL JOHN /1**

### **Effect:**

Forces the DOS Control into monochrome operation.

### **Use this option if:**

The Control has a monochrome VGA monitor and the Control's menus are hard to read.

### **Notes:**

Only applies to DOS Controls.

The default Control name is "Operator".

The network drivers must be loaded before you start the Control.

## **Use an alternate network adapter(/An) (NetBIOS version)**

**Command:** (W)CONTROL *Controlname* /An

**Example:** CONTROL JOHN /A1

### **Effect:**

Control will use NetBIOS network adapter 1.

### **Use this option if:**

You have more than one network adapter installed and wish the Control to communicate through a specific adapter.

### **Notes:**

Only applies to NetBIOS version.

*n* must be in the range 0 to 9.

The default Control name is "Operator".

The network drivers must be loaded before you start the Control.

## **Enable Broadcast Show.(/B) (DOS Control only)**

**Command:**       **CONTROL (or IPCONTRL) *Controlname* /B**

**Example:** **CONTROL SUPPORT /B**

### **Effect:**

Starts a DOS control session with Broadcast show function enabled.

### **Use this option if:**

You wish to be able to Broadcast a DOS Show to all available DOS Slaves.

### **Notes:**

By default Broadcast show is disabled.

The Slaves must be in DOS mode or DOS boxes to receive the show.

All available Slaves will receive the show whether or not they are connected.

**Use with extreme caution to avoid excess network traffic.**

The default Control name is "Operator".

The network drivers must be loaded before you start the Control.

## **Broadcast Show to all LAN. (/BA) (IPX only)**

**Command:**        **IPCONTRL *Controlname* /BA**

**Example:** **IPCONTRL SUPPORT /BA**

### **Effect:**

Enables IPCONTRL to broadcast a show on IPX LANs using Novell file servers as Bridges. If the /B only switch is used the show is restricted to the Local LAN only.

### **Use this option if:**

You wish to be able to Broadcast a Show to all available Slaves over an IPX network using Novell file servers..

### **Notes:**

Applies to IPX version only.

By default Broadcast show is disabled..

The Slaves must be in DOS mode or DOS boxes to receive the show.

All available Slaves will receive the show whether or not they are connected.

**Use with extreme caution to avoid excess network traffic.**

The default Control name is "Operator".

The network drivers must be loaded before you start the Control.

## **Connect to named Slave at Start-up (/CSlavename)**

**Command:** (W)CONTROL or IPCONTRL or WIPCNTRL  
**Controlname /CSlavename**

**Example: WIPCNTRL SUPPORT /CJohn**

### **Effect:**

When the Control starts up it will initialise and then connect and select the named Slave bypassing the main menu.

You can use a wild card to select from a group of Slaves. For example /CJO\* will select the first free Slave whose name starts with JO.

You can use the wildcard \* on its own to connect to and select the first free Slave. This is useful if you are using a pool of Slaves to provide a shared resource between a group of Controls.

You can use this switch in conjunction with /D to provide a fast connection to a Slave on a Remote LAN.

You may wish to consider setting up icons for each of your Slaves that you will be connecting to on a regular basis.

### **Use this option if:**

You wish to quickly connect to a named Slave.

### **Notes:**

Only the first *n* Slaves as set by the /S switch will be connected.

The default Control name is "Operator".

The network drivers must be loaded before you start the Control.

## **Dial telephone number at Start-up (/DTelephonenumber)**

**Command:** (W)CONTROL or IPCONTRL or WIPCNTRL  
**Controlname /Dtelephonenumber**

**Example:** WIPCNTRL SUPPORT /D0777123456

### **Effect:**

When the Control starts up it will initialise and then dial the telephone number (which must be a remote bridge) bypassing the Communications Menu.

You can use this switch in conjunction with /C to provide a fast connection to a named Slave on a Remote LAN.

You may wish to consider setting up icons for each of your Remote Bridges and/or Slaves that you will be connecting to over the PC-Duo Remote Comms.

### **Use this option if:**

You wish to quickly connect to a particular Bridge or named Slave.

### **Notes:**

The default Control name is "Operator".

IP or NB Remote must be loaded before you start Windows.

The network drivers must be loaded before you start the Control.

## **Set Super VGA mode at Control (/Gnn) (DOS only)**

**Command:**        **CONTROL or IPCONTRL *Controlname* /Gnn**

**Example:** **CONTROL SUPPORT /G67**

### **Effect:**

The Control will use the video mode set in Gnn when sending Shows to DOS Slaves.

### **Use this option if:**

You are experiencing problems showing to Slaves in 800x600 mode. Use in conjunction with the Slave /Gnn switch.

### **Notes:**

Only applies to DOS controls.

The default Control name is "Operator".

The network drivers must be loaded before you start the Control.



## **Send Message at start-up (/M)**

**Command:** (W)CONTROL or IPCNTRL or WIPCNTRL  
***Controlname /CSlavename /Mmessagefile***

**Example:** CONTROL SUPPORT /CJO\* /MC:\DATA\NEWS.TXT

### **Effect:**

When the Control starts up it will search for and connect all Slaves whose name starts with JO, send them the text message in the file called NEWS.TXT and then quit.

### **Use this option if:**

You wish to send the same message to a number of Slaves bypassing the main menu..

### **Notes:**

Only the first n Slaves as set by the /S switch will be sent the message.

The message must not exceed four lines.

The default Control name is "Operator".

The network drivers must be loaded before you start the Control.

## **Set maximum number of Connected Slaves (/Snn)**

**Command:** (W)CONTROL or IPCONTRL or WIPCNTRL  
**Controlname /Snn**

**Example:** CONTROL SUPPORT /S30

### **Effect:**

By default a Control can connect to up to 12 Slaves simultaneously. This is sufficient for most needs. However there may be times when you wish to create larger Workgroups. If so use the /S switch to increase the number of connections allowed.

### **Use this option if:**

You wish to vary the number of Slaves allowed to be connected simultaneously.

### **Notes:**

The default is 12 and the maximum is 30.

Each connection requires one network session. The network must be configured to allow for this.

The default Control name is "Operator".

The network drivers must be loaded before you start the Control.

## **Restrict Broadcast Messages to Local LAN (/L) (IPX only)**

**Command:**        **IPCONTRL or WIPCONTRL *Controlname* /L**

**Example:** **IPCONTRL SUPPORT /L**

### **Effect:**

Restricts Broadcast messages on IPX networks to the Local LAN only.

### **Use this option if:**

You wish to be able to restrict Broadcast Messages to the Local LAN.

### **Notes:**

Applies to IPX/SPX version only.

All available Slaves will receive the message whether or not they are connected.

The default Control name is "Operator".

The network drivers must be loaded before you start the Control.

## **Slaves Menu**

### **Purpose**

This pull down Menu is used for connecting available Slaves and also contains workgroup and Broadcast options. The sub menu choices available are:-

#### Connect

Displays a list of available Slaves from which you can choose one or more to connect.

#### Manual Connect

Displays a dialogue box to enable you to fast connect to a named Slave

#### Disconnect

Displays a list of connected Slaves from which you can choose one or more to disconnect.

#### Message

Displays a dialogue box into which you can type a message to be sent to all connected Slaves.

#### Show

Enables you to show the screen of a Control to all connected Slaves.

#### Broadcast Message

Displays a dialogue box into which you can type a message to be sent to all available Slaves.

#### Broadcast Show

Enables you to show the screen of a DOS Control to all available Slaves.

## Slaves Menu - Connect



### Purpose

Displays a list of all Slaves available for connection (and thereafter selection) and enables you to connect to up to thirty of them as a group. (Depending on the setting for maximum connectable Slaves and Network configuration)

### Method

From the menu bar choose **Slaves, Connect** or **Click on the above icon in the toolbar**. You will be prompted to enter the first few letters of the Slave names you want to search for. Hit ENTER or Click on OK to display all available Slaves or type the first few characters to restrict the list to a particular sub set. For example typing Ni will display available Slaves named Nick, Nigel, Nikki Etc.

An Information box will advise you that Control is looking for Slaves. This will take a few seconds after which list of Available Slaves on the Network meeting the criteria will be displayed.

### Then:-

#### To connect to a particular Slave

Highlight the name and click on **<Connect>**  
or Highlight the name and press ENTER  
or Double click on the name:-

#### To connect to all Slaves

Click on **<Connect all>**

#### To disconnect a Slave

Highlight the name and press ENTER or double click on the name or highlight the name and click on **<Disconnect>**

#### To disconnect all Slaves

Click on **<Disconnect All>**

### Use this option if:

You wish to connect to Slaves by choosing from a list of available Slaves.

### Notes:

Connected Slaves are marked with a single chevron.

You must connect to a Slave before you can Select it for a "one to one" session.

Only the first 100 available Slaves will be listed. If there are more Slaves on the Network type the first few characters of the Slavenam to list the Slaves you want to see.

## **Slaves Menu - Manual Connect**

### **Purpose**

Enables direct fast connection to a particular named Slave.

### **Method**

From the menu bar choose **Slaves, Manual Connect**.

Enter the name of the Slave you want to connect to in the dialogue box and press ENTER.

If the Slave is available the message "Connection Successful will be displayed.

If the Slave is not available the message "Slave *Slavename* not found" will be displayed. Use the Connect option to check the name.

Repeat the above steps to manually connect to additional named Slaves.

### **Use this option if:**

You wish to connect to a particular Slave for which you know the name.

### **Notes:**

You must connect to a Slave before you can Select it for a "one to one" session.

The Slave must be available for connection i.e. have the Slave TSR loaded.

## Slaves Menu - Disconnect



### Purpose

Enables you to disconnect a Slave or Slaves from a previously connected Workgroup.

### Method

From the menu bar choose **Slaves, Disconnect** or **Click on the above icon in the toolbar**

After a few seconds you will see a list of all connected Slaves.

### To disconnect a particular Slave

Highlight the name and press ENTER or double click on the name or highlight the name and click on **<Disconnect>**.

### To disconnect from all Slaves

Click on **<Disconnect all>**

### Use this option if:

You wish to disconnect from a previously connected Slave or Slaves.

### Notes:

A Slave must be connected before you can disconnect from it.

## **Slaves Menu - Message**

### **Purpose**

Once you have connected to a Slave or a group of Slaves, this function will enable you to send all of them a message of up to four lines. The message will remain on the Slave screen until the user clears it or until the time-out set when the Slave TSR was loaded clears it automatically.

### **Use this option if:**

You wish to send to send a message to a group of connected Slaves.

### **Method**

From the Menu bar choose **Slaves, Message**.

In the dialogue box, type the message to be sent. Use Tab to move to the next line.

Press ENTER or Click on <OK> to send the message to all connected Slaves.

### **Notes:**

The Message will be sent to all connected Slaves.

To Broadcast a Message to all available Slaves choose **Slaves, Broadcast Message** and then follow the above steps.



## Slaves Menu - Show



### Purpose

You can send your screen to all connected Slaves on the Network. This function is useful for training purposes and also eliminates the need for a video splitter.

### Use this option if:

You wish to display the Control's screen on a group of Slaves.

### Method

Make sure that the Slave programs were installed on the Control.

Connect the Slaves to which you want to send the Show.

From the Menu bar choose, **Slaves, Show**.

To start the show choose **<OK>**.

Whatever is displayed on the Control's screen will now also be displayed on the screen of the Connected Slaves.

To pause the show bring up task manager and switch to PC-Duo (or use Alt Tab). The Slave screens will not be updated until the show is resumed with **Slaves, Resume Show**.

To exit the Show choose **Slaves, End Show**.

### Notes.

The Control must have the Slave programs installed so that it loads PCDVGA.DRV when starting Windows. It does not need to actually be a slave.

The Slaves must be in Windows to receive a Show from a Windows Control.

Whilst the Show is in Progress the Slave keyboard will be disabled.

You can use the DOS Control to show to DOS Slaves.

## **Slaves Menu - Broadcast Message**

### **Purpose**

Enables a Control to broadcast a Message to all available Slaves on the Network. The message will remain on the Slave screen until the user clears it or until the time out set when the Slave TSR was loaded PC clears it automatically.

### **Use this option if:**

You wish to send a message to all available Slaves on the Network whether they are connected or not.

### **Method**

From the menu bar choose **Slaves, Broadcast Message**.

Type the message to be sent.

To start a new line press Tab.

Press ENTER or Click on <OK>

### **Notes:**

The Message will be sent to all available Slaves.

The message will be displayed on all Slaves unless they have been started with the /I switch.

## Slaves Menu - Broadcast Show (DOS Control only)

### Purpose

If you are using the DOS version of Control you can broadcast your screen to all available Slaves on the Network. This function is useful for training purposes and also eliminates the need for a video splitter.

### Use this option if:

You wish to Broadcast the Control's screen to all available Slaves on the Network.

### Method

Start a DOS Control.

Connect the Slaves to which you want to send the Show.

From the Menu bar choose, **Slaves, Broadcast Show**.

You will be placed at the DOS Command Prompt.

To start the show press the Hotkey combination and choose **Resume**. Whatever is displayed on the Control's screen will now also be displayed on the screen of all available Slaves.

To pause the show press the Hotkeys and choose **Suspend**. The Slave screens will not be updated until the show is resumed

To exit the Show, suspend it and then type Exit to return the main menu.

### Notes.

**Broadcasting a show is not recommended as it may have an unacceptable effect on Network performance. Unless you have a particular reason for broadcasting the show, use the Show to connected Slaves option instead.**

You can also use CTRL ALT R and CTRL ALT S as Hotkeys to resume and suspend shows. The broadcast show option is disabled by default. To activate it start the Control with the /B switch.

The Slaves must be in DOS or running a DOS box under Windows to receive the Show.

You can show Windows from a DOS Control but once in Windows you can not use the Hotkeys to suspend the show. You must exit Windows first.

If the Slave is in Windows you can prepare it to receive a Show by selecting the Receive Show icon in the PC-Duo Menu. This starts a DOS box into which the Show can be received and which will be automatically closed when the Show ends.

## **Selected Slave Menu**

### **Purpose**

This pull down Menu is used for selecting connected Slaves for a one to one session and setting the access mode. The sub menu choices available are:-

Select

Watch

Control

Share

Message

Chat

Show

Reboot

## Selected Slaves Menu- Select



### **Purpose.**

Enables a previously connected Slave to be selected for a "one to one" session.

### **Use this option if:**

You wish to control a Slave or conduct one of the other one to one functions.

### **Method.**

First connect to a Slave or group of Slaves.

From the menu bar choose **Selected Slaves, Select** or **Click on the above icon in the toolbar.**

Highlight the name of the Slave you want to select from the list of connected Slaves.

### **Notes.**

Once a Slave is selected it can be Watched, Shared or Controlled.

The most recently connected Slave automatically becomes the Selected Slave.

A Slave must be Selected before remote control, file transfer or Chat options are available.

## **Selected Slaves Menu- Watch**

### **Purpose**

Displays the selected Slave's screen on the Control. Does not provide access to the Slave keyboard.

### **Use this option if:**

You wish to view the Slave screen but not input keystrokes.

### **Method**

First Select the Slave for a one to one session.

From the menu bar choose **Selected Slaves, Watch**

Press ENTER or Click on **<OK>** to display the Slaves screen.

If you are using a Windows Control you can display the Slave screen in full or Windowed mode.

### **Notes:-**

The Slave must be selected first.

## Selected Slaves Menu- Share



### Purpose

Displays the selected Slave's screen on the Control. Enables keyboard input from either the Slave or Control user.

### Use this option if:

You wish to view the Slave screen and allow both the Control and Slave user to input keystrokes.

### Method

First Select the Slave for a one to one session.

From the menu bar choose **Selected Slaves;** or **Click on the above icon in the toolbar,** Press ENTER or Click on **<OK>** to display the Slaves screen.

If you are using a Windows Control you can display the Slave screen in full or Windowed mode.

### Notes:-

To have the next keystroke operate on the Windows Control workstation instead of the Slave press the PAUSE key. For example pressing PAUSE followed by CTRL ESC will bring up the Task Manger on the Control not on the Slave.

Another useful combination is the PAUSE key followed by the ALT key. If you are viewing the Slave in full screen mode this will cause the PC-Duo drop down menus to appear at the top of the Control screen.

The Slave must be selected first.

## **Selected Slaves Menu - Control (DOS Slave only)**

### **Purpose**

Displays the currently selected Slaves screen and permits the user at Control to input keystrokes whilst preventing the user at the Slave from inputting keystrokes.

### **Use this option if:**

You wish to take full control over the DOS Slave and lock out the Slave keyboard.

### **Method**

First Select the Slave for a one to one session.

From the menu bar choose **Selected Slaves, Control**.

Press ENTER or Click on <**OK**> to display the Slaves screen.

If you are using a Windows Control you can display the Slave screen in full or Windowed mode.

### **Notes:-**

The Slave must be selected first.

Does not apply to Windows Slaves which can only be Watched or Shared.

For Windows Slaves, Control is the same as Share.

To have the NEXT keystroke operate on the Windows Control workstation instead of the Slave press the PAUSE key. For example pressing PAUSE followed by CTRL ESC will bring up the Task Manger on the Control workstation.

Another useful combination is the PAUSE key followed by the ALT key. If you are viewing the Slave in full screen mode this will cause the PC-Duo drop down menus to appear at the top of the Control screen.



## **Selected Slaves Menu - Message**

### **Purpose**

Once you have selected a Slave this function will enable you to send a message of up to four lines to that Slave only. The message will remain on the Slave screen until the user clears it or until the time out set when the Slave TSR was loaded clears it automatically.

### **Use this option if:**

You wish to send a message to the selected Slave only.

### **Method**

From the menu bar choose **Selected Slaves, Message**

Type the message to be sent.

Press Tab to move to the next line

Press ENTER or Click on <OK>.

### **Notes:**

The Message will be sent to the Selected Slave only.

## Selected Slaves Menu - Chat



### Purpose

Opens up a two way dialogue box between the Control and the Slave. Either end can type in text. The text is displayed on both screens.

### Use this option if:

You wish to "Talk" with the user at the Slave.

### Method

From the menu bar choose **Selected Slaves, Chat** or **Click on the above icon in the toolbar**

The chat dialogue box opens.

Press ESC to close.

### Notes:

Both the Control and the Slave dialogues will be displayed at both ends.

Selected DOS Slave can initiate chat with CTRL ALT T; DOS control can do likewise.

Selected Windows Slave can initiate chat from the WSlave menu

A DOS control can chat to a Windows Slave, and vice-versa, but accented characters will not be displayed correctly

## **Selected Slaves Menu - Show**

### **Purpose**

You can send your screen to a selected Slave on the Network. This function is useful for training purposes and also eliminates the need for a video splitter.

### **Use this option if:**

You wish to display the Control's screen on a selected Slave.

### **Method**

Make sure that the Slave programs were installed on the Control.

Select the Slave to which you want to send the Show.

From the Menu bar choose, **Selected Slaves, Show**.

To start the show choose **<OK>**.

Whatever is displayed on the Control's screen will now also be displayed on the screen of the Connected Slaves.

To pause the show bring up task manager and switch to PC-Duo (or use Alt Tab). The Slave screen will not be updated until the show is resumed with **Selected Slave, Resume Show**.

To exit the Show choose **Selected Slaves, End Show**.

### **Notes.**

The Control must have the Slaves programs installed so that it loads PCDVGA.DRV when starting Windows. It does not need to actually be a slave.

The Slave must be in Windows to receive a Show from a Windows Control.

Whilst the Show is in Progress the Slave keyboard will be disabled.

You can use the DOS Control to show to DOS Slaves.

## **Selected Slaves Menu - Reboot**

### **Purpose**

Reboots the currently selected Slave.

### **Use this option if:**

You wish to reboot the selected Slave remotely.

### **Method**

From the menu bar choose **Selected Slaves, Reboot**

### **Notes**

If the Slave does not reboot correctly see [the /R](#) and [the /r](#) switches.

# Configure Menu

## **PURPOSE**

This pull down Menu is used for setting the configuration for the Control program. The sub menu choices available are:-

Full Screen

Low Level Keyboard

BIOS Keyboard

Keyboard Layout

Hotkeys

Select modem

## Configure Menu - Full Screen (Windows Control only)



### **Purpose**

Determines how the Slave screen will be displayed on the Control screen. The Slave screen can either be displayed in a Window, in which case the Control Menu is visible, or as full screen on the Control.

If displayed in full screen press the Hotkey combination to change to Windowed mode and redisplay the Control menu or press the PAUSE key followed by ALT key to display the Control drop down menu.

### **Use this option if:**

You wish the Slave screen to be displayed full screen on the Control.

### **Method.**

From the menu bar choose **Configure, Full Screen** or **Click on the above icon in the toolbar.**

### **Notes.**

If you are viewing a Slave in full screen mode and Hotkey to Windowed mode you must re-select Watch, Share or Control to re-display the Slave screen.

## **Configure Menu - Low Level Keyboard**

### **Purpose**

Passes keystrokes to the Slave by using hardware emulation. This works for most applications and is the default.

### **Use this option if:**

Keystrokes do not seem to be getting through to the Slave or a particular application crashes using the BIOS keyboard.

### **Method**

From the menu bar choose **Configure, Low Level Keyboard**

### **Notes**

If an application does not appear to be accepting keystrokes from Control, try changing to the BIOS keyboard option. This normally only applies to applications that run in protected mode.

Before deciding that the application is not responding make sure that you are in Share or Control mode and not just watching.

## **Configure Menu - BIOS Keyboard**

### **Purpose**

Causes PC-Duo to emulate keystrokes at the BIOS level instead of the hardware level. See also Low Level Keyboard.

### **Use this option if:**

An application at the Slave does not appear to be correctly accepting keystrokes from Control. Protected mode applications often have this effect.

### **Method**

From the menu bar choose **Configure, BIOS keyboard**.

### **Notes**

Only use this option if you are experiencing problems with the Low Level Keyboard option.



# Configure Menu - Keyboard Layout

## Purpose

Sets the keyboard layout to be used at Control.

## Use this option if:

Keystrokes are not being properly interpreted at the Slave end and you suspect that the wrong keys are being sent by Control.

## Method

From the menu bar choose **Configure, Keyboard**.

Select the correct keyboard layout for the Control workstation. This will be stored as the default.

## Notes

You can also edit the CONTROL.KBD file to set up your own keyboard interpreter if your keyboard does not appear in the list. See the file for details of how to do this.

## **Configure Menu - Hotkeys**

### **Purpose**

Enables Control to define a Hotkey combination avoid conflicts with applications using the same HotKeys.

### **Use this option if:**

You find that there is a clash between the standard Hotkeys and an application at the Slave.

### **Method**

From the menu bar choose **Configure Hotkeys**.

Toggle keys to be used for Hotkeys. This will be stored as the default.

### **Notes**

The initial default is CTRL LSHIFT RSHIFT.

If you toggle all keys off by mistake the Hotkey combination will be set to LSHIFT.

## **Configure Menu - Select modem**

### **Purpose**

Enables the Control to select, create or edit a user definable modem configuration for use in a Remote Communications session.

### **Use this option if:**

You wish to change the default modem to be used in the current session or to add or edit a modem configuration.

### **Method**

From the menu bar choose **Configure, Select Modem**  
Highlight the modem configuration you wish to use and press ENTER.

### **Notes**

If your modem does not appear in the list refer to the Help button in the dialogue box.

## **Communications Menu**

### **PURPOSE**

This pull down Menu is used for File Transfer and initialising communications with Remote Slaves and LANs. The sub menu choices available are:-

File Transfer and manipulation

Dial

Hang-up

Dial Directory

## Communications Menu - File Transfer



### Purpose

Enables the user at Control to transfer and manipulate files to or from a Selected Slave.

### Use this option if:

You wish to transfer or manipulate files.

### Method

First Select a Slave.

From the menu bar choose **Communications, File Transfer** or **Click on the above icon in the toolbar.**

The File Transfer Dialogue box is displayed.

The left hand list shows the files in the current directory on Control.

The right hand list shows the files in the current directory on the Slave.

### The control buttons are as follows:

- |                         |  |
|-------------------------|--|
| < <b>SWITCH</b> >       | Toggles the active file list between Control and Slave.              |
| < <b>SELECT</b> >       | Selects a file or files to transfer or manipulate.                   |
| < <b>SELECT ALL</b> >   | Selects all files in the active list.                                |
| < <b>DESELECT ALL</b> > | Deselects all files in the active list.                              |
| < <b>COPY</b> >         | Copies the selected files in the direction of the transfer arrow.    |
| < <b>CHANGE DIR</b> >   | Displays the Change Directory dialogue.                              |
| < <b>WILD CARD</b> >    | Displays the Wild Card dialogue box for file listing.                |
| < <b>COPY ONE</b> >     | Copies the highlighted file. in the direction of the transfer arrow. |
| < <b>DELETE ONE</b> >   | Deletes the highlighted file.  |
| < <b>RENAME</b> >       | Displays the rename dialogue box.                                    |
| < <b>FILE INFO</b> >    | Displays the file size and read-only status for highlighted file.    |
| < <b>VIEW</b> >         | Displays the contents of the highlighted file.                       |
| < <b>EDIT</b> >         | Allows you to edit the contents of the highlighted file              |

### Note:

You can also cut and paste between different files. For example between AUTOEXEC.BAT on the Control and AUTOEXEC.BAT on the Slave.

## Communications Menu - Dial

### Purpose

If you have loaded (IP) or (NB)REMOTE before starting the Control this option enables you to enter the Communications Options Menu.

### Use this option if:

You are on a Local LAN and wish to connect to a workstation on a remote LAN or a standalone Slave.

### Method

From the menu bar choose **Communications, Dial.**

The Communications options menu appears, from which you can dial out to a remote LAN or workstation.

### Notes

IP or NB Remote must have been loaded from the DOS prompt.

IP or NB Remote must have been loaded before starting Windows and Control.

Connections on the Local LAN will be lost.

### Tip

See also the /C and the /D switches for faster connection.

## **Communications Menu - Hang-up**

### **Purpose**

Terminates a Remote Communications session and hangs up the phone.

### **Use this option if:**

You have been using Remote Communications and wish to terminate the call.

### **Method**

From the menu bar choose **Communications, Hang-up**.

### **Notes**

You will be returned to the [Communications Options Menu](#).

## **Communications Menu - Dial Directory**

### **Purpose**

Displays a directory of remote users and telephone numbers for remote LANs and Standalone Slaves.

### **Use this option if:**

You wish to connect to a particular Slave on a Remote LAN for which you have created an entry in the Dial Directory.

You wish to add or edit entries in the Directory.

### **Method**

From the menu bar choose **Communications, Dial Directory**.

### **Notes**

You can only actually dial out if NB or IP Remote have been loaded first.



# Remote Communications

## General

[Overview](#)

[The Bridge Programs.](#)

[The Remote programs](#)

[The Communications Options Menu](#)

## Configuration

[Selecting a Modem](#)

[Creating a Modem file](#)

[MDM file commands](#)

## Remote Communications Overview

As well as allowing you to take Control of workstations on the Local Network, PC-Duo also allows you to take Control of workstations on Remote Networks or standalone workstations connected via a modem or serial link.

This is achieved by loading the Bridge TSR program on a PC somewhere on the remote LAN and a Remote program on the workstation that is to be used as the Control. The Bridge TSR can also be used to dial into a standalone (non-networked) Slave in conjunction with the 'LOCALIPX' TSR provided.

Between them the Remote and Bridge programs provide an interface that allows the Control to see the remote Slave(s) as if they were on the Local LAN. However neither the Control nor the Slave need to be physically attached to a LAN.

Furthermore, where the remote workstation is attached to a LAN, the Bridge program can be resident on any workstation on that LAN. The Bridge workstation does not itself have to be a Slave, although it can be, nor does it have to be dedicated although that may be prudent.

Once a Bridge is loaded on a networked workstation all Slaves on that network can be connected to by a Remote Control running the appropriate Remote Program.

In the case of standalone Slaves before loading the Bridge program, LOCALIPX must be loaded first. The Standalone workstation must be connected to a modem or some form of serial link. The Control user must use the IPX versions of the REMOTE AND CONTROL programs (IPREMOTE and IPCONTRL or WIPCNTRL).

The sequence of events for establishing a remote communications link is:-

### Slave End

Turn on the modem (or ensure that the serial link is operative.)  
Load the appropriate Bridge program (Load Localipx first for standalones)  
Load the appropriate Slave TSR (IPSLAVE or SLAVE)

### Control End

Turn on the modem (or ensure that the serial link is operative.)  
Load the appropriate Remote program (IPREMOTE or NBRemote).  
Start the appropriate Control program (IPCONTRL, CONTROL, WIPCNTRL or WCONTROL)

Once a dial up or serial link has been established operation is exactly the same as on a Local LAN. It will however be noticeably slower depending on the speeding of the link.

## The Bridge Programs

There are two versions of the Bridge program:-

**IPBRIDGE.EXE** For connecting to IPX Networks and standalone Slaves.

**NBBRIDGE.EXE** For connecting to NetBIOS Networks and Slaves.

Before a workstation can be Remotely accessed from a Remote Control, the appropriate Bridge TSR must be loaded from the DOS prompt. There are a number of options available when loading a Bridge to enable the access and security to be tailored to your exact needs.

### General

Loading a Bridge

Load basic Bridge

Unload a Bridge from memory

### Security Options

Load the Bridge with a Password

## Loading a Bridge

The basic PC-Duo Bridge is a DOS TSR (terminate and stay resident) program. It can reside in memory along with any other application, waiting until it is called from a Control. The Bridge workstation can still be used as a normal workstation but care should be taken not to crash it or to run programs that use or interfere with the serial port.

### **Before Loading a Bridge:**

Ensure that the Network drivers and NetBIOS or IPX are loaded or if it is a standalone workstation load Localipx to emulate a network.

The full command line for loading a Bridge is:

**(NB) or (IP)BRIDGE COMn [password] /Bnnnn /Mmodemname**

### **Notes:**

/Bnnnn is the Baud rate between the workstation and the modem.

The modemname must be defined in the Bridge.Mdm file Only sufficient characters to distinguish the modem name from any other in the Bridge.Mdm file need be specified.

In most instances loading the Hayes option, /MHayes, will be sufficient. Try this first.

**The Bridge must be loaded from the DOS prompt.**

The Bridge must be loaded **before** starting Windows. You can not start it from a DOS box.

The password must be encrypted using CALCPSW.

We recommend that you load the Bridge as part of the AUTOEXEC.BAT file at boot up.

## Load basic Bridge

**Command:** (NB) or (IP)Bridge COMn /Bnnnn /Mmodemname

**Example:** NBBridge COM1 /B9600 /MHayes

### Effect:

The Bridge will be available for connecting to remote Slaves on that network. The Bridge will use COM1 at a Baud rate of 9600 and the Hayes modem initialisation defined in Bridge.Mdm

### Use this option if:

You want the Bridge be available to all Control operators without restriction.

You do not require security on the Bridge.

### Notes:

If the /M switch is omitted the Bridge defaults to a direct serial link.

In most instances loading the Hayes option, /MHayes, will be sufficient. Try this first.

/B sets the PC to modem speed not the modem to modem speed.

**The Bridge must be loaded from the DOS prompt.**

The modemname must be defined in the Bridge.Mdm file.

The Bridge must be loaded **before** starting Windows. You can not start it from a DOS box.

The network drivers must be loaded before you start the Bridge.

COMn must be attached to a modem or a serial link.

COMn must be in the range 1 to 4.

Standalone workstations must use IPBridge and load Localipx first.

## Load the Bridge with a password

**Command:** (IP) or (NB)Bridge [*Password*] COMn  
/Bnnnn /Mmodemname

**Example:** NBBridge COM1 9768633 /B9600 /MHayes

### **Effect:**

The Control user will be required to enter a password before obtaining access to the Bridge.

### **Use this option if:**

You wish to restrict access to the Bridge to authorised Control operators only.

### **Effect:**

The Bridge will be available for connecting to remote Slaves on that network. The Bridge will use COM1 and the Hayes modem initialisation defined in Bridge.Mdm

### **Use this option if:**

You want the Bridge be available to authorised Control operators only.

### **Notes:**

The password must be generated using the CALCPSW program

The Control operator must enter the original password

**The Bridge must be loaded from the DOS command line.**

The Bridge must be loaded **before** you start Windows. You can not start it from a DOS box.

The network drivers must be loaded before you start the Bridge.

COMn must be attached to a modem or a serial link.

COMn must be in the range 1 to 4.

Standalone workstations must use IPBridge.

## **Unload a Bridge from memory**

**Command:** (IP) or (NB)Bridge /U

**Example:** NBBridge /U

### **Effect:**

Unloads Bridge TSR from DOS memory.

### **Use this option if:**

You wish to unload a Bridge.

### **Notes:**

Must be run from the DOS Command line.

TSRs loaded after Bridge must be unloaded first.

## **Load the LOCALIPX Program**

### **Purpose**

Loads a program on a standalone workstation to emulate the IPX network drivers.

### **Method**

At the DOS prompt type LOCALIPX.

### **Effect**

You can now load IPBridge on the Standalone.

### **Notes.**

Must be loaded from the DOS prompt.

Must be loaded before IPBridge.

Must be loaded before starting Windows.

The Control operator must use IPREMOTE and IPCONTRL or WIPCONTRL.



## Serialisation and the PCDSERIA Program

### Purpose

PC-Duo is serialised for the number of Slaves purchased. You must purchase a licence for each Slave that you will be using on the Network. If you exceed the number of Slaves for which you have purchased a Licence the Slave program will not load.

To assist with upgrades the PCDSERIA program is provided. This enables you to create your own Licences directly. It does however require that you obtain an Authorisation Certificate from your Vendor. Depending on the arrangements that the Vendor has made this can be achieved very quickly using facsimile machines.

The Authorisation Certificate contains information that you will need for creating serialisation files including:- The Network transport; The Serial Number; The maximum Slaves permitted; The expiry date; The name of the Licensee and an Authorisation Key.

### Method

Place the order for the required number of upgrades with your vendor. He will then provide you with an Authorisation Certificate containing the information that will be required to create a new serial file.

Set your current directory to the PC-Duo Directory

Run PCDSERIA.EXE **Example:- C:\PCDUO\PCDSERIA**

PCDSERIA will load and prompt you for details of your new licence as follows:-

Generate serial number for PC-Duo Slave.  
Version *versionnumber*, Copyright (c) 1994 PCI Ltd.

Enter transport (0 = Any, 1 = IPX, 2 = NetBIOS)  
Enter serial number (up to 9 characters)  
Enter max slaves. (0 -999,0 = unlimited)  
Enter expiry date (dd-mm-yy, 0 = never)  
Enter name of Licensee:  
Enter authorisation key:

**You must respond exactly as per the Authorisation Certificate. Note that the program is case sensitive.**

If you enter any details incorrectly you will see the message:-

Invalid key  
Enter authorisation key.

Correct the authorisation key or press CTRL C and start again.

The key code validates that the information that you entered is correct. If it is, PCDSERIA will create a new serialisation file SLAVE.SER and exit. You can then copy this file to all your existing or new slaves. You can also load it from the server.

## The Remote programs

Before a Control can access a Slave in a remote site, the Remote TSR must be loaded from the DOS prompt on the Control workstation. This enables the communications options in the control programs. Once the link has been established the Control program functions exactly the same as on a Local LAN.

There are two versions of the Remote program:-:-

<b>IPREMOTE.EXE</b>	<b>For connecting to IPX Bridges and standalones.</b>
<b>NBREMOTE.EXE</b>	<b>For connecting to NetBIOS Bridges.</b>

### General

[Loading the Remote program](#)

[Unloading the Remote program](#)

[The Communications Options Menu](#)

### Configuration

[Selecting a Modem](#)

[Creating a Modem file](#)

[MDM file commands](#)

## Loading the Remote Programs

**Command:** (IP) or (NB)EMOTE COMn

Example: **NBREMOTE COM2**

### **Effect:**

The Control program will be able to link to Slaves via remote Bridges.

### **Use this option if:**

You want to use the Control program to link to remote sites.

### **Notes:**

For a NetBIOS Control use NBRemote.

For an IPX Control use IPREMOTE.

The REMOTE program must be loaded from the DOS command line.

The Remote program must be loaded **before** you start Windows. You can not start it from a DOS box.

Network drivers are not required unless you will also be connecting to Slaves on the Local LAN.

COMn must be attached to a modem or a serial link.

COMn must be in the range 1 to 4.

## **Unload a Remote program from memory**

**Command:** (IP) or (NB)BREMOTE /U

**Example:** NBREMOTE /U

### **Effect:**

Unloads the Remote TSR from DOS memory.

### **Use this option if:**

You wish to unload a remote program.

### **Notes:**

Must be run from the DOS Command line.

TSRs loaded after xxREMOTE must be unloaded first.

## The Communications Options Menu.

The Communications Options Menu is displayed when you load a Control after first having loaded (IP) or (NB)Remote from the DOS Command line. The options are:-

- <**Dial Directory**> Displays a dialling directory of pre-set phone numbers.
- <**Manual Dial**> Allows you to enter the number to be dialled.
- <**Serial Link**> Makes a direct connection via a null modem cable or leased line.
- <**Local LAN**> Switches to the Local LAN.
- <**Set Baud Rate**> Sets the Baud rate to be used for the PC to modem link.
- <**Select Modem**> Selects or edits the modem configuration file to be used.

### Sequence of events to connect to a Remote Bridge

1. Ensure that the Bridge program has been loaded at the remote site.
2. Ensure that the modem is turned on or the serial link operational.
3. Load (IP) or (NB)Remote.
4. Start the Control program. The Communications menu will automatically display.
5. Select the modem configuration to be used if different from default.
6. Set the Baud Rate to be used if different from the default.
7. Initiate the call either via the dial directory or by using Manual dial.

Once the link is established the normal Control menu will be displayed and operation is then exactly the same as for a Local LAN..

### Notes:

Each time the selected modem and Baud rate are changed the settings are stored as the default. If you will always be using the same settings steps 5 and 6 can be omitted.

## Setting up your modem

PC-Duo uses one of two files when initialising the modem;-

**Control.Mdm**  
**Bridge.Mdm**

**For the modem attached to the Control PC.**  
**For the modem attached to the Bridge PC.**

These files contain initialisation strings and may be edited using a text editor such as Edit or Notepad. (See [Creating Modem files](#) for details).

### **The only essential settings in the MDM file are:-**

The Bridge.Mdm file must contain an initialisation string to set the modem to auto answer. **XON/XOFF (also called software flow control) must be disabled.**

The most frequent cause of failure is that the modem has not been turned on or that XON/XOFF has not been disabled.

### **For more reliable or faster performance you should also set the following:-**

Enable Hardware (RTS/CTS) Flow Control.

Enable fixed rate serial Comms and run the PC to modem speed at a higher rate than any possible modem to modem speeds.

Disable Data compression. (Unless you are transferring large volumes of uncompressed data)

### **In addition you may find the following improves performance:-**

Disable error correction.

Disable fall forward and back if this is supported by your modem.

In most instances the entry for Hayes will work. However the settings may not be optimal for your configuration. If in doubt review the section on [Creating Modem files](#).

As usual the best advice is to experiment with different settings to find the one best suited to your hardware and particular needs.

## **Encrypting a password**

Passwords **MUST BE ENCRYPTED** using the CALCPSW program. This can be run from either the DOS Command line or by clicking on the CALCPSW program in Windows.

### **Method**

Run CALCPSW

Enter the desired password.

Note the encrypted password generated by the program.

Add the encrypted password to the Slave or Bridge Command line.

### **Notes:-**

The Slave or Bridge uses the encrypted password.

The Control must enter the unencrypted password.

## Creating modem files

When a Bridge initialises or a Control places a call it looks in the appropriate .MDM file (Bridge.Mdm or Control.Mdm) for the selected Modem name and sends the sequence of initialisation strings defined in the section for that modem.

These .MDM files can be edited to create Modem Initialisation Strings for any type of modem. This approach means that you do not require special modem drivers to support your modem provided that you know the command set for it.

The easiest way to edit or create an entry in the Control.MDM file is to click on the EDIT button in Select Modem dialogue box. See [Select Modem Dialogue](#) for details.

You can also edit the .MDM files directly. The .files contain templates that you can use to insert your own commands specific to your modem. However for those users interested in knowing more, the format of the files is as follows:-

### CONTROL.MDM

**@[MODEMNAME]** The name you want the modem configuration to be listed as.

**@[DIAL]** This section contains the initialisation strings to be sent on dialling.

Command1  
Command 2  
Commandn

**@[HANGUP]** This section contains the modem string to be sent to hang up the phone.

Command1  
Command2  
Commandn

When you initiate a call PC-Duo reads down the list of MODEMNames until it finds the name specified when you selected the Modem to use for the call .

It then moves to the [DIAL] Section for that modem and works its way down the list of commands. These may be modem strings or PC-Duo .MDM Commands(See [MDM FILE COMMANDS](#)).

There are only three commands that are essential if PC-Duo is to work and we strongly advise you to include them in your own Modem definitions.

Modem Reset	Usually ATZ or AT&F.
Disable XON/XOFF	Refer to modem manual. Sometimes called Software flow Control.
Dial Command	Usually ATD

Refer to the CONTROL.MDM file for further information and examples.

### BRIDGE.MDM

The Bridge.Mdm file is very simple and simply requires that the modem be reset and set to Auto answer, with XON/XOFF disabled.



disabled. Refer to the BRIDGE.MDM file for examples.

## MDM File commands

The .MDM files have their own set of commands that can be used by advanced users to create a specific script of commands to be sent to the modem in remote communications. The full list is:-

**@aNN**      **Abort if specified response IS received from the modem in NN/18ths of a second**

E.g. @aERROR      If modem responds ERROR abort.

**@cNN**      **Wait NN/18ths of a second for connect response (abort if other response received) .**

E.g. @c540      Wait 30 seconds for a connection.

**@dNN**      **Wait NN/18ths of a second for data carrier detect signal from modem**

E.g. @d      Wait until modem signals it has a carrier then continue.

**@f**      **Flush any buffered response from the modem.**

E.g. @f      Clear out responses that are stored in the modems buffer.

**@hNN**      **Hang-up (drop DTR for in NN/18ths of a second)**

E.g. @h54      Drop DTR for 3 seconds

**@I**      **Ignore specified response.**

E.g. @IWAIT      Used to cope with spurious modem responses. Only one string can be specified.

**@kNN**      **Wait NN/18ths of a second for a keypress** (DOS Control only)

E.g. @k180      Wait 10 seconds for user to press a key. Used for debugging

**@pNN**      **Pause for NN/18ths of a second.**

EG @p54      Pause for 3 seconds before sending next command

**@q**      **Quite: do not echo modem responses to the screen**

E.g. @q      Do not echo modem responses to the screen

**@v**      **Verbose: do echo modem responses to the screen**

E.g. @v      Do echo responses to the screen

**@V**      **Very verbose: echo modem commands and responses to the screen**

E.g. @V      Echo both modem commands and responses to the screen

**@wNN**      **Wait NN/18ths of a second for specified response (abort if time-out)**

E.g. @w54OK      Wait 3 seconds for modem to respond OK. Abort if it does not.

**@#**      **Insert the number to be dialled. (The phone number is inserted when dialling)**

**@@**      **Send a literal @ character to the modem**

**@;**      **Send a literal ; character to the modem**



**THIS SECTION CONTAINS THE ERROR MESSAGES**

## Error Messages

Cannot communicate with NBBridge/IPBridge  
Cannot communicate with the modem  
Cannot connect to more than n Slaves  
Cannot contact phone number  
Cannot open file filename  
Cannot save dialling directory  
COMn is use by another program  
Demonstration Slave Slavename has been deactivated.  
Dialling directory is full  
Directory directoryname not empty or in use.  
Disk drivename full  
Error creating directory  
Error deleting file filename.  
Error deleting file filename.  
Error in file filename.  
Error reading drive  
Error reading file filename.  
Error renaming file filename.  
Error writing file filename.  
File transfer disabled at Slave  
If starting Windows please wait  
IPREMOTE not loaded  
IPX not loaded  
Machine Name not set  
Name Slavename already in use  
NBRemote not loaded  
NetBIOS not loaded  
No files selected  
No matching files  
No Slaves found  
No Slaves free - please try later  
Not enough memory or filename not found  
Slave Slavename already connected to Control Controlname  
Slave Slavename does not respond  
Slave Slavename has disconnected  
Slave Slavename is running on this machine  
Slave Slavename rejected the link  
Slave Slavename unavailable (in graphics mode)  
Slavename has wrong version of SLAVE.EXE installed  
There are no Slaves connected.  
There is no Slave selected  
Too many files to display - list truncated  
Versions of (IP) or (NB) Remote and (IP) or (NB) Bridge do not match.  
Waiting for Slavename to acknowledge  
Warning filename is too long to display it all  
Wrong password  
Wrong version of xxREMOTE installed

# Cannot communicate with NBBridge/IPBridge

## Meaning

The Remote program on the Control was unable to establish (or subsequently lost) a link with the Bridge at the Remote site..

## Possible Causes

1. (IP) or (NB) Bridge is not loaded on the Remote workstation.
2. You are using the wrong version of the Bridge program.
3. The modems did not connect correctly.
4. The PC to modem link at the Remote site is not working.
5. The modems are not configured correctly.
6. The PC to modem Baud rate is set to high at one or both ends.

## Possible Solutions

1. Make sure Bridge has been loaded on the workstation attached to the modem at the remote site.
2. Check that the versions are the same at both ends i.e. (NB) or (IP).
3. Check that the modems are connecting. They should both show On line(On hook).
4. Check that the modem at the remote site is initialising. The auto answer light should be on.
5. Ensure that XON/XOFF is turned off in the initialisation string.  
See [MDM files](#).
6. Reduce the baud rate and try again.

## NOTE

The PC-to modem baud rate is an important figure. If this is set too high then the modem may not be able to keep up with the PC and data will be lost. This is one of the most frequent causes of communication failures. We recommend the use of 16550 UARTS in the PC's, especially with Windows. Unlike the more common 16450 these UARTS have a buffer and can therefore run at higher speeds..

## **Cannot communicate with the modem**

### **Meaning**

The Remote or Bridge program is unable to initialise the modem.

### **Possible Causes**

1. The modem is not turned.
2. The modem is not connected to the right COM port.
3. The modem has entered a Hung state.
4. The MDM file contains an incorrect initialisation string.

### **Possible Solutions**

1. Check that the modem is turned on.
2. Check that the specified COM port is correct and the cables are correct.
3. Turn the modem off and on and then reload the Bridge or Remote.
4. Check the MDM file.

## **Cannot connect to more than n Slaves**

### **Meaning**

You are trying to connect to more Slaves than has been set by the /S parameter when loading the Control. The default is twelve.

### **Possible Cause**

The default maximum connected Slaves allowed by PC-Duo is twelve. To increase this you must start the Control with the /S switch.

### **Possible Solution**

Start the Control with the /S switch. to increase the number of allowed connections. The maximum setting is 30.



## **Cannot contact phone number**

### **Meaning**

The remote number that you are dialling is not available. It may be engaged or an incorrect number.

### **Cause**

1. The number may be incorrect.
2. You may be using pulse dialling when tone dialling is required or vice versa.

### **Solution**

1. Check that the number is correct. Try dialling it from a standard hand set and confirm that the modem at the other end answers.
2. Precede the number with a P for pulse dialling or a T for Tone Dialling.

## **Cannot open file filename**

### **Meaning**

A file required for PC-Duo or that you are trying to open is not available or corrupted.

### **Cause**

1. PC-Duo is incorrectly installed.
2. The file has been corrupted or deleted.
3. The directory where the file is located is not on the current path.
4. You do not have the required access rights.

### **Solution**

1. Reinstall PC-Duo.
2. Reinstall PC-Duo.
3. Correct the path.
4. Contact your Network supervisor.

## **Cannot save dialling directory**

### **Meaning**

You have made a change to the dialling directory and PC-Duo is trying to save it but is unable to do so.

### **Possible Causes**

1. Your disk is full.
2. You have exceeded the maximum number of dialling directory entries.
3. The path containing the Dialling Directory is not valid.
4. You do not have the required access rights to change the dialling directory.
5. The file is write protected.

### **Possible Solutions**

1. Free up disk space.
2. The maximum number of entries for the dialling directory is 300.
3. Check that the path is still valid.
4. Contact your network supervisor.
5. Disable file protection.

## **Demonstration Slave Slavename has been deactivated**

### **Meaning**

The time out for the demonstration Slave has activated.

### **Cause**

You are connecting to a demonstration Slave. Demonstration Slaves time out after five minutes use and must be reloaded.

### **Solution**

Buy a full copy.

## **Dialling directory is full**

### **Meaning**

There are already 300 entries in the Dialling Directory

### **Cause**

You are trying to add a new entry that would exceed the limit of 300.

### **Solution**

Delete unused entries to free up space.

## **Directory directoryname not empty or in use**

### **Meaning**

You are in File Transfer mode and are trying to delete a directory that still contains files or is locked by another network user.

### **Possible Causes**

1. The Directory still contains files.
2. The Directory is write protected or in use.
3. You do not have the required access rights.

### **Possible Solutions**

1. Delete the files and then delete the directory.
2. Check that it is allowable to delete the directory and try again later.
3. Contact your Network supervisor.

## **Disk drivename full**

### **Meaning**

There is insufficient space on the Disk to complete the current activity.

### **Possible Causes**

1. The disk is full.

### **Possible Solutions**

1. Free up space on the disk and try again.

## **Error deleting file filename**

### **Meaning**

An error has occurred whilst trying to delete a file.

### **Possible Causes**

1. The file is read only.
2. The disk is write protected.
3. You do not have the required access rights.
4. Another program is using the file.

### **Solution**

1. Check that it is permissible to delete the file then change the Read only attribute using File Info.
2. Disable write protection on the disk.
3. Contact your network supervisor.
4. End the other program and try again.



## **Error opening file filename**

### **Meaning**

An error has occurred opening the file.

### **Possible Causes**

1. The file is read only.
2. The disk is write protected.
3. You do not have the required access rights.
4. Another program is using the file.

### **Possible Solutions**

1. Check that the file is readable from DOS.
2. Enable write.
3. Contact your network supervisor.
4. End the other program and try again.

## **Error reading drive**

### **Meaning**

An error has occurred whilst trying to read from a drive.

### **Possible Cause**

1. There may not be a disk in the drive.
2. The drive may be read protected.
3. The drive mappings may no longer be valid.
4. You do not have the required access rights.

### **Solution**

1. Put a disk in the drive.
2. Check your access rights.
3. Check the drive mappings.
4. Contact your network supervisor.

## **Error reading file filename**

### **Meaning**

An error has occurred reading the file.

### **Cause**

1. The file may be corrupted.
2. You may not have access rights to the file.

### **Solution**

1. Check that the file is readable using another method.
2. Check your access rights.

## **Error writing file filename**

### **Meaning**

An error has occurred whilst trying to write to a drive.

### **Possible Cause**

1. There may not be a disk in the drive.
2. The drive may be write protected.
3. The drive mappings may no longer be valid.
4. You do not have the required access rights.

### **Possible Solutions**

1. Put a disk in the drive.
2. Disable write protection.
3. Check the drive mappings.
4. Contact your network supervisor.

## **File transfer disabled at Slave**

### **Meaning**

You are not authorised to conduct File transfers on this Slave.

### **Cause**

The Slave has been started with the /F switch to disable file transfer.

### **Solution**

Contact the user at the Slave and ask them to restart the Slave without the /F switch.

## **If starting Windows please wait**

### **Meaning**

The Slave is in a graphics mode that is not currently able to transmit to the Control.

### **Possible Cause**

The Slave is in a graphics mode that is not currently able to transmit to the Control workstation. This message appears when the Slave starts a graphics program such as Windows.

### **Possible Solutions**

If the Slave is indeed starting Windows the message will disappear when the Windows Slave has loaded.

## **IPREMOTE not loaded**

### **Meaning**

The IPRemote program has not been loaded.

### **Cause**

You are trying to use one of the remote communications options that require IPREMOTE to be loaded first.

### **Solution**

Load IPREMOTE from the DOS command line before starting Windows.

## **Machine Name not set**

### **Meaning**

The DOS Machine Name has not been set.

### **Cause**

You are trying to load the Slave or Control using the \* parameter to default the Slavename to be the same as the DOS Machine Name. However the DOS Machine Name has not been set.

### **Solution**

Set the DOS Machine Name and try again.

If you were not trying to set the Slavename to be the DOS Machine Name but instead were trying to start the Slave with an acknowledgement then the problem is that you did not specify a Slavename e.g. Slave MYSLAVE \*



## **Name already in use**

### **Meaning**

There is already a Slave or Control of this name on the network.

### **Cause**

You are trying to start a Slave with a name that is already in use.

### **Solution**

Start the Slave with a different name.

### **Note:**

A Control and a Slave can have the same name.

## **IPX not loaded**

### **Meaning**

PC-Duo has not found an IPX stack to attach to.

### **Cause**

You are trying to load an IPX Windows Control but have not set up Windows to support IPX.

### **Solution**

Configure Windows to support IPX.

## **NBRemote not loaded**

### **Meaning**

The NBRemote program has not been loaded.

### **Cause**

You are trying to use one of the remote communications options that require NBRemote to be loaded first.

### **Solution**

Load NBRemote from the DOS command line before starting Windows.

## **NetBIOS not loaded**

### **Meaning**

PC-Duo has not found a NetBIOS stack to attach to.

### **Cause**

You are trying to load a NetBIOS Windows Control but have not set up Windows to support NetBIOS (or NetBEUI)

### **Solution**

Configure Windows to support [NetBIOS or NetBEUI](#)

## **No files selected**

### **Meaning**

You are trying to do a file transfer operation but you have not selected any files.

### **Cause**

You are trying to do a file transfer operation but you have not selected any files.

### **Solution**

Select the files you want to work with and try again.

## **No matching files**

### **Meaning**

There are no files matching the current pattern.

### **Cause**

You have set a wildcard pattern in file transfer mode for which there are no matching files.

### **Solution**

Change the wildcard pattern.

## **No Slaves found**

### **Meaning**

There are no available Slaves on the Network matching the specified pattern.

### **Cause**

1. There are no Slaves available meeting the pattern.
2. There is a network error.
3. You are using the wrong version of control.

### **Solution**

1. Make sure that Slaves have been started and you are setting a valid search pattern for connect.
2. Check that the network is operating.
3. Make sure you use IPX controls for IPX Slaves and NetBIOS Controls for NetBIOS Slaves.

## **No Slaves free - please try later**

### **Meaning**

All Slaves are currently in use.

### **Cause**

You are stating a Control from the command line using the /C switch to connect to the first free Slave. However there are no free Slaves.

### **Solution**

1. Use the CONNECT command to discover which operators have the Slaves in use and ask them to free them up.



## **Not enough memory or filename not found**

### **Meaning**

There is not enough memory free to complete the current operation

### **Cause**

You have probably tried to shell out to DOS and are exceeding the available memory when loading a DOS program.

### **Solution**

Free up conventional memory and try again. If you not attempting to show from the Control exit PC-Duo and try again.

## **Slave Slavename already connected to Control.**

### **Meaning**

Another Control operator has already connected to the named Slave,

### **Cause**

You are trying to connect to a Slave that is already in use by another Control operator.

### **Solution**

Contact the other Control operator and request them to release the Slave.

## **Slave Slavename does not respond**

### **Meaning**

The named Slave is not available.

### **Cause**

You are trying to connect to a named Slave using Manual Connect but the Slave is not available. Either the Slave has not been loaded or you have entered an incorrect name.

### **Solution**

Use Connect to check that the Slave is available and if so the correct name.

# **Slave Slavename has disconnected**

## **Meaning**

The Slave has disconnected.

## **Cause**

1. The Slave workstation has been turned off.
2. The network has failed.
3. The Slave has timed out.

## **Solution**

1. Check that the Slave workstation is up and running with Slave loaded.
2. Contact your network supervisor.
3. Check the connection time out on the Slave.

## **Slave Slavename rejected the link**

### **Meaning**

The user at the Slave has pressed no to reject the request to connect it.

### **Cause**

The Slave has been started with the acknowledgement switch /K. The user does wish to be disturbed and has rejected the link.

### **Solution**

Contact the user or try later.

## **Slave Slavename unavailable (in graphics mode)**

### **Meaning**

You are trying to send a DOS show to a Slave that is in graphics mode, possibly windows.

### **Cause**

Showing to a DOS Slave when the Slave is in graphics mode is not supported.

### **Solution**

Ask the user at the Slave to exit the graphics package they are in. If it is Windows ask them to run Receive DOS Show to open a DOS box.

## **Slavename has wrong version of SLAVE.EXE installed**

### **Meaning**

As per message.

### **Cause**

The versions of Control and Slave are not compatible.

### **Solution**

Upgrade either the Control or the Slave to be the same version.

## **There are no Slaves connected**

### **Meaning**

There are no Slaves connected.

### **Cause**

You are to send a message to or select from a group of connected Slaves without first having connected to any.

### **Solution**

Use the Connect option to connect to a number of Slaves.



## **There is no Slave selected**

### **Meaning**

You are trying to carry out a one to one operation without first having selected a Slave to work with.

### **Cause**

As above.

### **Solution**

Use Select to choose a Slave to work with.

## **Too many files to display - list truncated**

### **Meaning**

There are too many files in the current directory for PC-Duo to display.

### **Cause**

There are too many files in the current directory for PC-Duo to display.

### **Solution**

Use the Wildcard characters to reduce the number of files listed.

## **Versions of (IP) or (NB) Remote and (IP) or (NB) Bridge do not match**

### **Meaning**

As per message.

### **Cause**

You are trying to establish a Remote connection but the versions at either end do not match.

### **Solution**

Use the correct version.

## **Waiting for Slavename to acknowledge**

### **Meaning**

The user at the Slave must explicitly grant access by pressing the Y key.

### **Cause**

The Slave has been started with the /K switch that requires the Slave user to explicitly grant access.

### **Solution**

Wait until the user grants access.

## **Wrong password**

### **Meaning**

You have entered the wrong password.

### **Cause**

The Slave or Bridge has been started with password protection. The password you entered was incorrect.

### **Solution**

Ensure that you are typing the unencrypted version of the password.

## **COMn is in use by another program.**

### **Meaning**

The Remote or Bridge program is unable to take control of the COM port.

### **Cause**

You are trying to load a Bridge or Remote program but the COM port has already been claimed by another application.

### **Solution**

Unload the other application or use another COM port. Make sure that you connect the modem.

## **Slave Slavename is running on this machine**

### **Meaning**

The Slave that you are trying to connect to is loaded on the Control workstation.

### **Cause**

You have loaded a Slave on the Control workstation and are trying connect to it using Manual Connect. You can connect to Slaves on other Control workstations but not the one you are using.

### **Solution**

## **Error creating Directory**

### **Meaning**

An error has occurred whilst trying to create a directory in File Transfer mode.

### **Possible Causes**

1. The Directory already exists.
2. The name you are using is already taken by a file of that name.
3. The disk is write protected.
4. You do not have the required access rights.

### **Solution**

1. Choose another name.
2. Choose another name.
3. Disable write protection on the disk.
4. Contact your network supervisor.



## **Error renaming filename**

### **Meaning**

An error has occurred whilst trying to rename a file.

### **Possible Causes**

1. A file of that name already exists.
2. The name you are using is already taken by a directory of that name.
3. The disk is write protected.
4. You do not have the required access rights.

### **Solution**

1. Choose another name.
2. Choose another name.
3. Disable write protection on the disk.
4. Contact your network supervisor.

## **Error in file filename.mdm at line n.**

### **Meaning**

An incorrect initialisation string has been sent to the modem.

### **Cause**

The .MDM file for the modem you are using contains a string that is not recognised by the modem.

### **Solution**

Use a text editor to find the incorrect line in the .MDM file and correct it.

## **Warning: File is too long to display.**

### **Meaning**

The file is too long to view or edit in File Transfer mode.

### **Possible Causes**

As above, the maximum file size that can be viewed or edited is approximately 30K.

### **Solution**

1. Start an Editor on the Slave and view or edit that way.
2. Transfer the file back to Control and use a local editor.

## **Wrong versions of (IP)NBRemote installed.**

### **Meaning**

As per message.

### **Cause**

You are trying to establish a Remote connection but the version of IP or NB Remote that you have loaded does not match the version of Control you are using.

### **Solution**

Use the correct version.

# **TECHNICAL REFERENCE**

[Hardware and Software Requirements](#)

[Changes to Windows System files](#)

[Windows 3.1](#)

[Windows for Workgroups \(NetBEUI\)](#)

[Windows for Workgroups \(NetBIOS\)](#)

[Windows for Workgroups \(IPX/SPX\)](#)

[Summary of WFWG requirements](#)

[Troubleshooting](#)

[Error Messages](#)

## Changes to Windows System files

PC-Duo for Windows requires minimal changes to your Windows system files. In general these are made automatically when you install PC-Duo but there may be occasions when further configuration is required to fine tune performance. These changes are needed for the Slave only; WCONTROL just requires Windows network support to be installed, which it normally is.

The changes made by the PC-Duo Setup program are:-

### WIN.INI.

**Run=** **is set to** **Run=Path\WSLAVE.EXE**

This automatically starts the WSlave program when Windows loads. Until WSlave has loaded you will not be able to see or send keystrokes to the Windows Slave. This is particularly relevant for WFWG users who Login when they start-up Windows. Until the Login process has completed, the Run WSlave command will not be activated and the Slave not accessible. This can cause problems when controlling the Slave remotely in DOS and then taking it into Windows for Workgroups. Be wary of this combination.

You can also run WSLAVE.EXE from the start-up group or after Windows has started. However the earlier in the process the WSlave program is loaded the less chance there is of other programs interfering. An example might be a pop-up message that requires an action from the user. You cannot respond to this message from the Control until WSLAVE is running.

### SYSTEM.INI

[Boot] SECTION

**Display.driv=drivename** **is changed to Display.Drv=Path\**

**PCDVGA.DRV**

**Display.old=path\Olddrivename** **is added.**

**Display.PCD=path\PCDVGA.DRV** **is added.**

The PC-Duo video driver (PCDVGA.DRV) uses the existing driver as defined by Display.Old. If you subsequently change your video setting using Winsetup, Display.Drv will be set to the new value and you must run the PC-Duo Reinstall after Windows Setup to change it back to PCDVGA.DRV. This will also update Display.old with the filename of the new driver.

### Tip

In an emergency you can edit SYSTEM.INI direct to amend the display.driv line. (display.driv=VGA.Drv always works). You can then reinstall your new video driver followed by a PC-Duo reinstall after Windows Setup from the PC-Duo Menu.

[386Enh] SECTION

NetHeapSize=24

If this already greater than 24 no change is made.

Device=PCDVXD.386

is added.

This device driver provides support for DOS Slaves and Slaves in DOS boxes.

## **WINDOWS for WORKGROUPS (NetBEUI)**

If you are using PC-Duo in a Windows for Workgroups environment using Microsofts NetBEUI (Which PC-Duo treats as NetBIOS) as the Network protocol then you should note that the Slave requires real mode NetBEUI or NetBIOS but the Control does not.

### **AT THE SLAVE WORKSTATION**

#### **Step 1**

The WFWG network is initialised using the **NET START** command which is normally placed in the AUTOEXEC.BAT file. This does not actually load the real mode NetBEUI transport which Slave needs in order to load.

To overcome this, change the line to **NET START NetBEUI**. This will then load a real mode transport stack that the PC-Duo NetBIOS Slave can access from DOS.

#### **Step 2**

Configure WFWG to use real and enhanced mode Network drives and increase the number of NCBs to 24 (or 30 if running the Bridge and the Slave on the same workstation); increase this value further if you experience difficulties connecting to the Slave or sharing drives on the Slave workstation.

Run NETWORK SETUP from the NETWORK menu in WFWG and make sure that you have the following settings:

Adapter (i.e. The Network card) driver should be set up for REAL Mode and ENHANCED Mode NDIS.

NetBEUI should be set as the default protocol and configured for at least 24 NCBs.

### **AT THE CONTROL WORKSTATION**

If you will only be using the Windows NetBEUI Control then provided NetBEUI is the default protocol no changes are required except to increase the NCBs available to at least 24.

If you will also be using a DOS Control then you should make the same changes as for the Slave.

#### **Notes:**

Refer to the PC-Duo README file for step by step instructions for WFWG 3.11.

Refer to the WFWG Resource Kit manual for a more detailed discussion of Windows for Workgroups network settings and how to change them.

## WINDOWS 3.1

If you are using Windows 3.1 in a networked environment then you will probably already have installed network support drivers and no further changes are required.

If you are using Windows 3.1 but have not already installed Network support then you need to ensure that it is configured for the appropriate version of Control and Slave. Essentially this comes down to ensuring that your protocol NetBIOS, NetBEUI or IPX is included in the Windows SYSTEM.INI [386Enh] Section.

The easiest way to do this is run Windows Setup and select the required network support. This automatically installs the required protocol support.

Alternatively, and provided you are confident of what you are doing, you can use a text editor to amend the network= line in [386Enh] Section. The required devices are usually:-

### IPX

```
network=vipx.386, vnetware.386
```

### NetBIOS

```
network=*vnetbios
```

The network= line may contain other items such as Vnetsupp.386 (the WFWG equivalent of Vipx.386) but these are not necessary for PC-Duo and will not affect its operation.

### Warning

Before making any changes to SYSTEM.INI always make a backup copy of the file.



## **WINDOWS for WORKGROUPS (IPX)**

If you are using PC-Duo in a Windows for Workgroups environment using IPX Support as the default protocol then you may well have set it up for the IPX ODI driver. If this is the case no further changes are required to either the Slave or the Control workstations.

If you have not installed ODI support in WFWG then we strongly recommend that you do so.

### **AT THE SLAVE WORKSTATION**

#### **Step 1**

Confirm that you are loading IPXODI before starting Windows for Workgroups.

Step 2 Configure WFWG to use the ODI driver.

Run Network Setup from the Network menu in WFWG and make sure that the network adapter (i.e. the network card) is set up for the ODI driver.

When you install ODI support in WFWG it will also add the line ODIHLP line to your AUTOEXEC.BAT file. This should be positioned after the driver (the adapter) has initialised but before IPXODI is loaded.

#### **Example:**

```
C:\Windows\LSL  
C:\Windows\NE2000  
C:\Windows\ODIHLP.EXE  
C:\Windows\IPXODI  
C:\Windows\NET START  
C:\PCDUO\IPSLAVE JOHN
```

### **AT THE CONTROL WORKSTATION**

If you will only be using the Windows Control then provided WFWG has been configured for IPX support no further changes are required.

#### **Notes:**

Refer to the PC-Duo README file for step by step instructions for WFWG 3.11.

Refer to the WFWG Resource Kit manual for a more detailed discussion of Windows for Workgroups network settings and how to change them.

## **WINDOWS for WORKGROUPS (NetBIOS)**

If you are using PC-Duo in a Windows for Workgroups environment using a third party NetBIOS as the default protocol then you may well have set it up for the NetBIOS support already. If this is the case no further changes are required to either the Slave or the Control workstations.

If not then you need to make the following changes.

### **AT THE SLAVE WORKSTATION**

#### **Step 1**

Confirm that you are loading NetBIOS before starting Windows for Workgroups. If it is Novells NetBIOS add the line NetBIOS COMMANDS=25 to your NET.CFG or SHELL.CFG files.

#### **Step 2 Configure WFWG to provide NetBIOS support.**

Run NETWORK SETUP from the NETWORK menu in WFWG and make sure that the network adapter (i.e. The Network card) is set up for the Real and Enhanced mode NDIS driver.

Refer to the WFWG manual for a more detailed discussion of Windows for Workgroups network settings. and how to change them.

### **AT THE CONTROL WORKSTATION**

If you will only be using the Windows Control then provided WFWG has been configured for NetBIOS support no further changes are required .

If you will also be using a DOS Control then make the same changes as for the Slave.

#### **Notes:**

Refer to the PC-Duo readme file for step by step instructions for WFWG 3.11.

Refer to the WFWG manual for a more detailed discussion of Windows for Workgroups network settings and how to change them.

## **Summary of WFWG Requirements**

### **IPX CONTROL**

In Network Setup ensure that IPX/SPX Compatible Transport without NetBIOS support is installed.

### **IPX Slave**

You must load ODI support in DOS before loading the Slave.  
In Network Setup select the ODI driver for the adapter.  
Setup protocols as required E.g. IPX and NetBEUI.

### **NetBEUI CONTROL**

Ensure that WFWG is configured for NetBEUI support; real mode drivers are not required, but if real mode drivers are used ensure that the number of real mode NCB's is set to at least 25.

### **NetBEUI SLAVE.**

Real mode NetBEUI drivers are required  
In Network Setup ensure that the adapter is set up for Real and Enhanced NDIS  
Ensure that the NCBs for the NetBEUI protocol are set to at least 25.  
Amend the Net Start Line (usually in AUTOEXEC.BAT) to read Net Start NetBEUI.

### **NOVELL NetBIOS CONTROL**

In Network Setup ensure that IPX/SPX compatible transport with NetBIOS is installed.  
Ensure that Novells NetBIOS is loaded from DOS after IPXODI.  
Ensure that NetBEUI protocol is not installed.  
Add the line NETBIOS COMMANDS=25 to your NET.CFG or SHELL.CFG files.

### **NOVELL NetBIOS SLAVE**

Ensure that Novells NetBIOS is loaded from DOS after IPXODI.  
Add the line NETBIOS COMMANDS=25 to your NET.CFG or SHELL.CFG files.

# Hardware and Software Requirements

## HARDWARE

### DOS CONTROL

100 % IBM compatible 80286 or above with 100KB free RAM

### DOS SLAVE

100 % IBM compatible 80286 or above with 25KB free RAM

### WINDOWS CONTROL

100% IBM compatible 80386SX or above.

### WINDOWS SLAVE

100% IBM compatible 80386SX or above.

## SOFTWARE

### DOS CONTROL & SLAVE (depending on Network protocol)

DOS 3.3 or later.

IPXODI version 2 or later.

IBM LAN Support Program 1.1 or later or any other compatible NetBIOS.

### WINDOWS CONTROL & SLAVE

DOS 5.00 or higher.

IPXODI version 2.1 or higher.

Compatible NetBIOS or NetBEUI.

Windows 3.1 or higher or

Windows for Workgroups 3.1 or higher.

### Notes:

A monolithic IPX i.e. one that is bound directly to the card will normally be acceptable but can not be guaranteed. We therefore recommend that you upgrade to IPXXODI if you experience problems.

Windows must be running in Enhanced Mode. Standard Mode will not work.

## Troubleshooting.

Hopefully you will have few problems loading and running PC-Duo. However as with any network application this is dependent on your workstations being correctly configured. This Section sets out the symptoms of potential problems provides basic suggestions on how to tackle them.

### Error Messages

Connected Slaves disconnect unexpectedly

Keystrokes not getting through to the Slave.

Erroneous keystrokes passed to Slave

Colours are incorrect.

You can send keystrokes but can not see the Slave screen.

Fonts do not come across correctly.

Bridge hangs when starting Windows over Remote Comms.

Slave hangs when starting Windows over Remote Comms.

Applications will not load or run.

Updates and file transfer appear slow over remote Comms.

The Hotkeys do not appear to work.

Loaded Slaves do not appear in the list of available Slaves.

## Connected Slaves disconnect unexpectedly

### SYMPTOM

You have a group of Slaves connected during a control session but they intermittently disconnect with the message **Slavename has disconnected**.

### POSSIBLE CAUSES.

The Control maintains contact with the Slave by sending it tickle packets. If the Slave does not receive a packet every 30 seconds it assumes that the Control has gone away and disconnects so that it will be available for other Control users.

This situation may occur if the Control is too busy to maintain normal contact with the Slave or has insufficient network resources available.

An example of this might be where the Controlling was sharing a Slave running a Windows type screen show, ( which involves almost constant screen updates) whilst at the same time communicating over the Network as a WFWG server.

### POSSIBLE SOLUTIONS.

As a rule you should find that you are able to reconnect to the Slave. However there are a number of ways in which you might be able to make the connections more reliable.

1. Increase the Number of NCBs available. For WFWG NetBEUI this needs to be at least 25 but if you are also loading a Bridge should be at least 30. Gradually increase this, say in steps of 4, to determine the minimum value that provides reliable connections.
2. Increase the NetHeapSize (In the [386Enh] Section of SYSTEM.INI) on the Control and Slave. By default PC-Duo increases this to 24 but for some workstations that use a lot of Network resources this figure needs to be higher. Gradually increase this, say in steps of 4, to determine the minimum value that provides reliable connections

## **Keystrokes do not get through to Slave.**

### **SYMPTOM**

You can see the Slaves screen but keystrokes at the Control do not appear to be passed through.

### **POSSIBLE CAUSES.**

1. You are watching instead of sharing or Controlling the Slave.
2. The application at the Slave is Filtering out the keystrokes.
3. The Slave has become locked out.
4. The Slave keyboard has been set to an incorrect state.

### **POSSIBLE SOLUTIONS.**

1. Switch to sharing or Controlling.
2. Try using the BIOS keyboard instead of the Low Level Keyboard and vice versa.
3. Disconnect and reconnect the Slave.
4. Try pressing and releasing the CTRL key at both the Control and Slave.

If all else fails unload and reload the Slave and ascertain if the problem is repeatable. If so please submit a problem report to your vendor.

## **Erroneous keystrokes passed to Slave.**

### **SYMPTOM**

When Controlling a Slave erroneous characters appear when you type at the Control keyboard.

### **POSSIBLE CAUSES.**

1. The application at the Slave is translating the keystrokes.
2. The Slave keyboard has been set to an incorrect state.
3. You are using the wrong keyboard layout at the Control.

### **POSSIBLE SOLUTIONS.**

1. Try using the BIOS keyboard instead of the Low Level Keyboard and vice versa.
2. Try disconnecting and reconnecting to see if this cures the problem.  
Also try pressing and releasing the CTRL key at both the Control and Slave.
3. Select the correct keyboard layout for Control from the Configure Menu.

If all else fails unload and reload the Slave and ascertain if the problem is repeatable. If so submit a problem report to your vendor.



## **Colours are incorrect on Control.**

### **SYMPTOM**

The Colours on the Slave and the Control do not match.

### **POSSIBLE CAUSES.**

1. You have incompatible video cards on the Control and the Slave.
2. The video modes on the Slave and Control are out of synchronisation.

### **POSSIBLE SOLUTIONS.**

1. If the problem is with DOS Slaves and Controls refer to the /0 switch. Turn off colour palette send.
2. Disconnect and reconnect the Slave. This will cause the Slave to re-send Control its current video mode.

### **Note:-**

If the Control and Slave are at different colour resolutions , for example a 16 colour Control watching a 256 colour Slave, then PC-Duo has to convert those colours. It is not always possible to find an exact match so an approximation is made.

## **You can send keystrokes but can not see the Slave screen**

### **SYMPTOM**

Keystrokes get through but you can not see the Slave screen.  
The Slave screen comes across as a White Screen at the Control.

### **POSSIBLE CAUSES.**

1. The video modes on the Slave and Control are out of synchronisation.

### **POSSIBLE SOLUTIONS.**

1. Disconnect and reconnect the Slave. This will cause the Slave to re-send its video mode to Control.

## **Fonts do not come across correctly.**

### **SYMPTOM**

The fonts on the Slave and Control screens do not match.

### **POSSIBLE CAUSES.**

The Slave is loading a screen font that is not available on the Control. Control uses the nearest available match that it finds in the Windows font mapper. This is particularly likely when Controlling a LARGE FONT Windows Slave from a SMALL FONT Windows Control or vice versa.

### **POSSIBLE SOLUTIONS.**

The solution is to make sure that whatever screen fonts are used on a Slave are also available on the Control. The fonts do not actually have to be installed but must in the Windows System Directory. PC-Duo will then load them dynamically.

### **Notes.**

Provided the fonts have been loaded at some point it is likely that they will still be in the System Directory. For example, if you have loaded Large fonts on the Control and later changed to Small fonts, the Control will still function correctly with a Large font Slave.

If you know the names you can copy the fonts directly but it is probably best to install them using Control Panel, Fonts.

## **Bridge hangs when starting windows over remote Comms.**

### **SYMPTOM**

When connected to a DOS Slave over a PC-Duo Bridge you start Windows. Whilst Windows is loading you receive the message Unable to contact Bridge.

### **POSSIBLE CAUSES.**

When Windows is loading it stops communicating with the serial port until it has initialised. If this initialisation exceeds 60 seconds, Control assumes that the Bridge has shut down and ends the call.

### **POSSIBLE SOLUTIONS.**

You should be able to reconnect after the Windows initialisation sequence has completed. However please note that if the initialisation contains any messages that require user intervention, such as the Windows for Workgroups Login, you will not be able to do so until someone at the Slave end has made the required response.

## **Slave hangs when starting windows over remote COMMS.**

### **SYMPTOM**

When connected to a DOS Slave over a PC-Duo Bridge you start Windows. Whilst Windows is loading you receive a message that the Slave has disconnected.

### **POSSIBLE CAUSES.**

When Windows is loading it stops communicating with the serial port until it has initialised. If this initialisation exceeds 30 seconds Control assumes that the Slave has shut down and ends the connection.

### **POSSIBLE SOLUTIONS.**

You should be able to reconnect after the Windows initialisation sequence has completed. However please note that if the initialisation contains any messages that require user intervention, such as the Windows for Workgroups Login, you will not be able to so until a user at the Slave has made the required response.

## **Applications will not load or run.**

### **SYMPTOM**

When you are controlling a DOS Slave an application will not load or run.

### **POSSIBLE CAUSES.**

1. There is insufficient DOS memory available.
2. There is a conflict between the application and the Slave.
3. Another application is interfering with the Slaves interrupt.

### **POSSIBLE SOLUTIONS.**

1. Make more memory available. If possible load the Slave high.
2. Try using the BIOS keyboard instead of the Low Level Keyboard and vice versa.
3. Use the /V switch to change the Slaves Software Interrupt Vector

## **Screen updates or file transfer slow over remote Comms**

### **SYMPTOM**

After allowing for the speed of the link, updates and file transfer are slower than would be expected. If you have an external modem you may notice pauses of two to three seconds between sending and receiving data as indicated by the TX and RX lights.

### **POSSIBLE CAUSES.**

1. Poor line quality.
2. The modem is receiving data faster than it can pass it to the PC. Characters are therefore being lost and Control is having to request the Slave to re-send them.
3. The PC is sending data to the modem faster than the modem can pass it on. The modem is unable to buffer the overflow and again characters are lost.
4. The modems themselves may be incompatible.

### **POSSIBLE SOLUTIONS.**

1. Disconnect and re-dial.
2. Reduce the Baud rate between the PC and the modem.
3. Enable hardware RTS/CTS flow Control on the modem.
4. Try to use modems from the same manufacturer at each end.

### **NOTE:**

The PC-to-modem baud rate is an important figure. If this is set too high or too low then the modem may not be able to keep up with the PC or vice versa and data will be lost. This is one of the most frequent causes of communication failures. We recommend the use of 16550 UARTS in the PC's, especially with Windows. Unlike the more common 16450 these UARTS have a 16 character buffer and can therefore run at higher speeds without losing data.

## **Hotkeys do not appear to work.**

### **SYMPTOM**

You press the Hotkey combination but nothing happens.

### **POSSIBLE CAUSES.**

You have re-mapped the Hotkey combination to a different setting or one that is already used by another program.

### **POSSIBLE SOLUTIONS.**

Change the Hotkey combination from the Configure menu. If you are using a Windows Control to view a Slave in full screen mode you can access the PC-Duo Menus by pressing the PAUSE key followed by the ALT Key. They will appear as drop downs at the top of the screen.



## **Slaves are not listed.**

### **SYMPTOM**

Workstations that you know have the Slave loaded are not listed as available on the Control.

### **POSSIBLE CAUSES.**

The network has been configured to filter out broadcasts. When control builds a list of available Slaves it broadcasts a message asking all Slaves to sign in. If broadcasts are filtered out, Slaves not on the immediate segment will not receive it and therefore not sign in.

### **POSSIBLE SOLUTIONS.**

1. Use Manual Connect to address the Slave directly.
2. Contact your network supervisor.

## **DOS Installation.**

To install the DOS only versions of PC-Duo:-

1. Place the PC-Duo disk in Drive A.
2. At the DOS prompt enter A:\Install.

The DOS Install menu will be displayed.

3. Enter the directory where you wish the programs to be installed to or press ENTER to accept the default.
4. Select the modules you wish to be installed by entering Y or N.

When the installation is completed the Program will advise you of successful installation. You may then press ESC to exit.

### **See also**

Setting Installation Defaults.

### **Notes:**

For installation of Windows options you must use the Windows PC-Duo Setup program.

## **WINDOWS Installation.**

### **To install the Windows versions of PC-Duo:-**

1. Place the PC-Duo disk in Drive A.
2. Start Windows.
3. From File Manager run A:SETUP

The message **Setup initialising** will be displayed. You will then be given the option to continue or exit. Choose **Continue**.

At this point you can choose the options you wish to install and the path to install to. You must also enter the name that will be used for the PC-Duo Control.

3. Enter the path and directory where you wish the programs to be installed to or accept the default. Then enter the name for the Control.

4. Select the options you wish to be installed by checking or unchecking the boxes.

When you are ready select continue. Setup will copy the required files to the designated path. If the directory does not exist it will create it.

Finally Setup will create a Menu group in File Manager called PC-Duo and install icons for the required options.

If you have elected to install a Windows Slave, WIN.INI will be amended to load the Slave when Windows starts. (Run=WSLAVE.EXE)

You should note that for a Windows Slave, the Slave TSR must be started from the DOS prompt before Windows is loaded. We recommended that you add this line to your AUTOEXEC.BAT file.

### **See also**

[Setting Installation Defaults](#)

[Changes to Windows System files](#)

## **Setting defaults for installation.**

The default values offered by the PC-Duo Windows installation program (SETUP) can be controlled through file DEFAULTS.INC. You may edit this file as desired for your particular circumstances.

For example: Setting COPY%=0 will cause SETUP to set up the icons and .INI files on the user's workstation to point to an existing installed copy on (presumably) a file server somewhere.

See the file itself for details of the configurable options.

**THIS SECTION CONTAINS DIALOGUE MESSAGES**

## Chat

Type in the dialogue that you want to appear in the chat box on the Slave. The user at the Slave can also type in dialogue.

Press ESC to Close the Chat box and return to normal operation.

### **Tip.**

If a Slave is Selected the user at that Slave can initiate the Chat session by maximising the Windows Slave icon and choosing **Commands, Chat**.

The equivalent for the DOS Slave is CTRL ALT T.

## Send message to Slave(s)

Type in the Message that you want to appear on the Slave(s) screen.

The message may be up to four lines long. To start a new line press TAB.

To send the Message press ENTER or Click on <OK>.

### Notes.

If you have selected this option from SLAVES MENU MESSAGE the message will be sent to all connected Slaves.

If you have selected this option from SLAVES MENU BROADCAST MESSAGE the message will be sent to all available Slaves on the Network.

If you have selected this option from SELECTED SLAVES MENU MESSAGE the message will be sent to the selected Slave.

## Connect

Enter the first few letters of the Slave names you want to search for. Press ENTER or Click on <OK> to display all available Slaves or type the first few characters to restrict the list to a particular sub set. For example typing Ni will display available Slaves named Nick, Nigel, Nikki Etc.

An Information box will advise you that Control is looking for Slaves. This will take a few seconds after which a list of Available Slaves on the Network meeting the criteria will be displayed.

To connect to a particular Slave, highlight the name and press ENTER or double click on the name or highlight the name and click on <Connect> .

To connect to all Slaves click on <Connect All> .

To disconnect a Slave highlight the name and press ENTER or double click on the name or highlight the name and click on <Disconnect> .

To disconnect all Slaves click on <Disconnect All> .

### Notes:

Connected Slaves are marked with a single chevron >.

You must connect to a Slave before you can Select it for a "one to one" session.

Only the first 100 available Slaves will be listed. If there are more Slaves on the Network type the first few characters to list the Slaves you want to see.



## Manual Connect

Enter the exact name of the Slave that you wish to connect to. This will also select that Slave.

If you are not sure of the name, use SLAVES CONNECT to search for a list of all available Slaves.

### **Tip**

You can also use wildcards, for example, N\*, to connect to the first free Slave starting with N

## **Password**

The Slave that you are trying to select has been started with a password.

Type in the password for the Slave and press ENTER.

The password must be the original password not the encrypted version. See [CALCPSW](#) for details.

## **Bridge password**

The Bridge that you are trying to connect through has been started with a password.

Type in the password for the Bridge and press ENTER.

The password must be the original password not the encrypted version. See [CALCPSW](#) for details.

## Available Slaves

These are the Slaves on the Network that meet the criteria and are available for connection.

To connect to a particular Slave, highlight the name and press ENTER or double click on the name or highlight the name and click on **<Connect>** .

To connect to all Slaves click on **<Connect All>** .

To disconnect a Slave highlight the name and press ENTER or double click on the name or highlight the name and click on **<Disconnect>** .

To disconnect all Slaves click on **<Disconnect All>** .

### Notes:

Connected Slaves are marked with a single chevron >.

You must connect to a Slave before you can Select it for a "one to one" session.

Only the first 100 available Slaves will be listed. If there are more Slaves on the Network type the first few characters to list the Slaves you want to see.

## Connected Slaves

This is a list of the currently connected Slaves from which you may select a single Slave for a one to one session.

To select a Slave highlight the name and press ENTER or double click on the name or highlight the name and click on **<SELECT>** . This will then become the current Slave.

When you have selected the Slave that you wish to Control, click on **<CLOSE>**.

To see the screen of the Slave click on the Switch to Slave Screen icon on the Tool bar to share its screen and keyboard.

If you wish to access it in a different mode, Watch, Control, Show Etc.; choose the appropriate option from the SELECTED SLAVES pull down Menu.

## Select Slave

This is a list of the currently connected Slaves from which you may select a single Slave for a one to one session.

To select a Slave highlight the name and press ENTER or double click on the name or highlight the name and click on <**Connect**> . This will then become the current Slave.

When you have selected the Slave that you wish to Control, click on <**CLOSE**> or press ESC.

To share the Slave screen and keyboard click on the switch to Slave Screen icon on the Tool bar.

If you wish to access it in a different mode, Watch, Control, Show Etc.; choose the appropriate option from the SELECTED SLAVES pull down Menu.

## Communications Options

This is the Communications Options Menu. It is displayed when you load a Control after first having loaded (IP) or (NB)Remote from the DOS Command line. The options are:-

- <**Dial Directory**> Displays a dialling directory of pre-set phone numbers.
- <**Manual Dial**> Allows you to manually enter the number to be dialled.
- <**Serial Link**> Makes a direct connection via a null cable or leased line.
- <**Local LAN**> Switches to the Local LAN.
- <**Set Baud Rate**> Sets the Baud rate to be used for the PC to modem link.
- <**Select Modem**> Selects the modem configuration file to be used.

### Sequence of events to connect to a Remote Bridge

1. Ensure that the Bridge program has been loaded at the remote site.
2. Ensure that the modem is turned on or the serial link operational.
3. Load (IP) or (NB)Remote.
4. Start the Control program. The Communications Options Menu will automatically display.
5. Select the modem configuration to be used if different from default.
6. Set the Baud Rate to be used if different from the default.
7. Initiate the call either via the dial directory or by using Manual dial.

Once the link is established the normal Control menu will be displayed and operation is then exactly the same as for a Local LAN.

### Notes:

Each time the selected modem and Baud rate are changed the settings are stored as the default. If you will always be using the same settings steps 5 and 6 can be omitted.

## Dial Directory

This is the Dial Directory. The options are:-

- <**Dial**>                    Dial the number associated with the highlighted name.
- <**Change**>    Edit the highlighted name or associated telephone number.
- <**Add**>                    Add an entry to the list.
- <**Delete**>    Delete the highlighted entry.
- <**Close**>        Exit the Dial Directory.



## Edit Dialling Directory

Click on the item you want to change and over-type with the new details.

### Tip

You can include special characters in the phone number. Consult your modem manual for details. Here are a few examples of standard characters that you can prefix the number with:-

- P pulse dial the following number.
- T tone dial the number.
- W wait for a secondary dial tone, useful when you need to wait for an outside line.
- , put a delay into the dialling process, default is normally 4 seconds.

## **Add to Dialling Directory**

Enter the name that you want the Slave to be listed as and the telephone number to be dialled.

When you next open the dial directory the list will be presented in alphabetical order. Clicking on a name will automatically dial the associated number.

### **Tip**

Try to use meaningful names that you will easily recognise rather than codes. Remember that you can also use the /D and /C switches when loading the Control programs to bypass the Main menu.

## Manual Dial

Type in the telephone number that you want to dial.

### Tip

You can include special characters in the phone number. Consult your modem manual for details. Here are a few examples of standard characters that you can prefix the number with:-

- P pulse dial the following number.
- T tone dial the number.
- W wait for a secondary dial tone, useful when you need to wait for an outside line.
- , put a delay into the dialling process, default is normally 4 seconds.

## Switch

Click on <OK> to switch to the Slave screen.

### **IMPORTANT NOTE:**

This message will only be displayed the first three times that you switch to a Slave screen in any one Control session. Make sure that you know the hot keys to get back.

If you have selected full screen mode you can access the PC-Duo menus by pressing the Pause key followed by ALT.

## **Edit**

### **PURPOSE**

Edits the highlighted file.

- <Cut>**                      Deletes the highlighted text and stores it in the Clipboard.
- <Copy>**                    Copies the highlighted text and stores it in the clipboard.
- <Paste>**                    Pastes the contents of the clipboard at the cursor position.
- <Undo>**                    Undo changes.
- <OK>**                      Save the changes.
- <Cancel>**                 Exit Edit without saving changes.

## Select keyboard

### **Purpose**

Selects the highlighted keyboard layout for the Control workstation. This will be stored as the default.

Keystrokes sent to the Slave will be based on this keyboard mapping.

### **Tip**

If you are using a non standard keyboard you can create your own mapping by editing the CONTROL.KBD file.

## **File Transfer**

This is the File Transfer Menu. The options available are:-

Select

Select All

Deselect

Deselect All

Switch

Copy

Delete

Change Dir

Wild Card

Copy One

Delete One

Rename

File Info

View

Edit

## **Select**

Selects (Tags) the highlighted file for transfer or manipulation.

Selected files are indicated with a single chevron >



## **Select All**

Selects (Tags) all files listed in current directory for transfer or manipulation.

Selected files are indicated with a single chevron <

## **Deselect**

Deselects (Untags) the currently highlighted file.

## **Deselect All**

Deselects (Untags) all files listed in current directory.

## Switch

Switches the focus between the Control and the Slave.

### Tip

Rather than using the <**Switch**> button position the mouse pointer over the list you wish to make current and Click once. This makes that the selected list.

## **Copy**

Copies the selected (Tagged) files from the Directory with the focus to the Directory on the other workstation.

## **Delete**

Deletes the highlighted file(s).

## **Change Dir**

Displays the Change Directory Dialogue.

The changes apply to the list with the focus.

## **Wild Card**

Enables the setting of file pattern for listing files in the directory with the focus.

Valid wildcards are \* and ?



## **Copy One**

Copies the highlighted file to the current directory on the other workstation.

## **Delete One**

Deletes the highlighted file.

## **Rename**

Displays dialogue box to enable you to rename the highlighted file.

## **File Info**

Displays information on current file such as creation date, size and read only attribute..

Enables you to change the read only attribute

## **View**

Displays the contents of the highlighted file. Most useful when viewing text files.

## **Change Directory**

This dialogue enables you to select the drive and directory that you want to work with.

You select directories by highlighting the name or pressing <Select> or by Double Clicking on the name.

Selecting or Double Clicking on .. moves up one level.

Use <Create> to make sub-directories of the currently selected directory.

Use <Delete> to remove sub-directories of the currently selected directory.

## **Make Directory**

Enter a name for the Directory that you want to create press ENTER or click on <**OK**>

### **Note:**

You can only create directories in the currently selected Directory. If you try to use a path E.g. C:\Newdir you will receive an error message.

## Select Modem to Use.

You can either use one of the pre-defined modem configurations or create a new one.

### To use one of the pre-defined modems

Highlight the name and click on <**OK**>. This will then be stored as the default which PC-Duo will automatically use each time you start a Remote Communications session. The default at installation is Hayes compatible which should be suitable for use with most modems. We recommend that you try this option first.

### To create a new modem configuration or edit an existing one.

Highlight the name of the modem that you wish to use as the basis for the new or amended configuration and click on <**EDIT**>. Refer to the Help in the Modem setup dialogue for required or recommended settings. When you have finished editing the configuration you can save it under a new name or overwrite the existing setup. The one exception is the Hayes compatible option which is always displayed first in the list and cannot be overwritten.

### To delete a modem from the list.

To delete an entry from the list highlight the name and click on <OK>. Note that you can not delete the Hayes compatible option.

### To exit Modem setup with saving changes.

Click on <**Cancel**>



## Wild Card

Enter a pattern for the files that you want to be listed in the Directory listing. You can use all the standard DOS wild cards.

### Examples:-

*.*	Displays all files.
*.Exe	Displays files with the extension .EXE only.
Dat*.*	Displays all files starting with Dat.

## Rename

This dialogue enables you to rename the currently selected file. You must use valid DOS filenames.

Type in the new name for the file and click on <**OK**>

## **File Info**

This dialogue displays information about the currently selected file.

The information shown is for the size, creation date and time and the state of the Read only attribute.

You can change the read only attributing by using the Read only check box. Setting it to on displays an x which means that the read only attribute is set On.

Click on the box to toggle between on and off.

## **View**

This dialogue enables you to view the currently selected or highlighted file. As a rule it is only useful for viewing text files.

Use the scroll bars to move up and down the file.

You can copy data from the file by highlighting the text you want and clicking on **<copy>**

If you want to edit or paste text into a file use the **<Edit>** option instead.

## **Edit**

This dialogue enables you to both view and edit the currently selected or highlighted file. As a rule it is only useful for viewing or editing text files.

Use the scroll bars to move up and down the file.

Use the edit option as a simple text processor to make changes to files.

You can copy data from the file by highlighting the text you want and clicking on **<copy>**

You can also paste data into the file or between files using the **<paste>** options. This pastes the contents of the Windows clipboard into the file at the insertion point.

If you change your mind about the changes pressing **<undo>** will restore the file to its original state.

If you do make changes you will be prompted to confirm them before the file is saved.

## Start Show

If you choose <**OK**> the Control will switch to a Local Windows session. Whatever is displayed on the Controls screen will also be displayed on the screen/s of all connected or the selected slave/s (Depending on whether you started the show from Slaves, Show or Selected Slave, Show.).

The Slaves must be in Windows to receive the Show. Whilst receiving the show the Slave mouse and keyboard will be disabled.

To pause the show bring up Task Manager and switch to PC-Duo Control. The show will be suspended until you choose the appropriate resume show option from the menu.

To end the show bring up task manager and switch to PC-Duo Control. Then choose the appropriate end show from the menu.

## **Suspend Show**

The show is currently suspended.

To resume the show choose the appropriate resume show from the menu.

To end the show choose the appropriate end show from the menu.

## Configure Modem

PC-Duo allows you to set up your own modem initialisation and command strings to tailor its operation to your exact needs. The only boxes that must be completed are; Reset; Response; Connect Message and Hangup Prefix and Suffix.

### Reset

This is the string that PC-Duo sends to your modem to ensure that it is placed in a known condition ready to accept further commands. Usually this will be:-

AT&F	Fetch factory defaults.
V1	Set verbose responses to commands rather than codes.
E1	Echo responses to the screen. (Required for the OK and Connect messages)

### Response

The verbose response the modem will send to PC-Duo to confirm reset was successful. Usually this will be OK

### Initialise

You can use this field to add additional initialisation strings to override your modem defaults.

### Disable Xon/Xoff flow control.

If this is not your modems default setting then this box **must** be completed if PC-Duo is to work properly.

### Disable Data Compression.

If your modem does not default to data compression disabled then we recommend that you complete this box to make it do so. Data compression will have little effect when using PC-Duo and may even slow it down. The exception is if you are transferring large uncompressed text or data files.

### Dial Prefix.

Use this box to set the dialling prefix for your modem. Usually ATDT or ATDP. Do not enter the telephone number to be dialled as this is sent via the manual or dial directory option.

### Connect Message.

PC-Duo needs to know when a call has been placed successfully. Enter the message that your modem will send. Usually this is Connect. Note that you do not need to enter the full response only the portion that you want PC-Duo to wait for. However you can use this to limit your connection to pre-defined connection types EG Connect 9600.

### Hang-up Prefix.

Enter the string that will place you modem in command mode during a call. Usually +++

### Hang-up Suffix.

Enter the string that will cause your modem to hang up the line. Usually ATH0.





**Save As**

## Setting the DOS Machine Name

The DOS Machine Name is most commonly seen on NetBIOS or NetBEUI networks but can also be applied to IPX/SPX Networks.

PC-Duo is able to use the DOS Machine Name as the default Slave or Control name when these programs are loaded by substituting an \* (asterisk) where you would normally enter the name i.e. Slave \* instead of Slave John.

If your network is not already configured to set the DOS Machine Name then you must set it manually if wish to use this default.

If you do not already have a program to do this then you can use the SETMNAME program provided with PC-Duo. Please note that this must be run from the DOS prompt.

### To check if your network already sets a DOS Machine Name.

1. Change to the PC-Duo Directory.
2. Type SETMNAME ? and press ENTER.
3. If a name has already been set you will see a message such as:-  
Machinename set to Accounts.

### To set a new name

1. Type SETMNAME followed by the name that you want.  
Example SETMNAME FRED.
2. You will then see the message Machinename set to FRED

### Notes.

Be careful when setting the DOS Machine Name manually that you do not cause a conflict with other network requirements. For example WFWG uses the Machine Name as the ComputerName.

## **Getting Started.**

Installing PC-Duo is exceptionally easy and provided you follow a few basic rules you should be up and running within a very short time.

The first step is to make a backup of your PC-Duo disks and place the originals in a safe place.

Next we ask that you take a few moments to fill in and return your registration card. This will enable us to keep you informed of upgrades and new developments. More importantly it will entitle you to technical support.

You are now ready to install the product. Of course, if you have got this far, you already know easy installation is but please make sure that you complete the first two steps before moving on to Concepts.

[DOS only Installation](#)

[Windows Installation](#)

[Concepts](#)

