Win3500Plus Control System

v1.2

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Chapter 1 – Introduction

General Description

The PESA 3500Plus System Controller is a low cost, full-featured microprocessor-based control system designed to interface with various configurations of PESA video and audio routing switchers. The 3500Plus System Controller, working in conjunction with the PESA Win3500Plus Control System software, enables users to configure and operate a routing switcher system from a PC.

Hardware installation and operation information may be found in the PESA 3500Plus System Controller manual.

For a summary of the Win3500Plus Control System general specifications, see Table 1 on page 1.

Max Number of Levels	16	
Max Number of Inputs/Outputs per Level	576	
Max Number of Components	32	
Max Number of Tielines	64	
Max Number of Categories	254	
Max Number of Index Names	16 (Including default “0”)	
Max Number of Sources	600	
Max Number of Destinations	600	
Max Number of Rentries	8	
Max Number of Salvos	128 (1024 Entry Lines)	
Lock Priority Range	0-255 (“0” is Highest Priority)	
Max Number of Control Panels	500	
Panel Address Range	1 - 1023	
Panel Requestor Code Range	1 – 65535	
Chop Rate	1 – 255 Frames	
Component Types	RM5 (System 5)	PRC
Offset Range	0 – 255	0 – 4094
Strobe Range	1 – 5	1 – 63
Address Range	1 – 255	1 – 4095

Table 1 General Specifications

Minimum PC Requirements

The minimum PC requirements to run Win3500Plus are:

- Processor: 486DX2-66MHz
- Memory: 8 MB of RAM
- Monitor: 800X600 SVGA
- Serial Port: One serial port available from COM1 through COM4 available for CPU Link use (16550 UART preferred.)
- Hard Disk: 10 MB of available space (5 MB for executable files and 5 MB for configuration data)
- Operating System: Win3500Plus is a 16-bit application which will run under any of these operating systems:

  Microsoft Windows™ v3.1

  Microsoft Windows95™

  Microsoft Windows98™

  Microsoft Windows NT™
- Local Modem (Optional): If you wish to connect to the 3500Plus System Controller via modem, you will need two modems, A Local Modem and a Remote Modem. See "Modem" on page 20 for more information.

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What’s New for v1.2

New Panels

Win3500Plus now supports the following PESA Remote Control Panels: RCP-CSD, RCP-64X, RCP-128X, RCP-PVPG.

More Categories

The maximum number of categories has been increased from 128 to 254.

Maintenance

The following bugs have been corrected: salvo bug, online panel configuration empty list bug, and configuration new/open bugs.

Chapter 2 – Installation

Preliminary Settings

NOTE: The following information about CONFIG.SYS applies to 16-bit versions of Windows only.

The FILES= statement in your CONFIG.SYS file is used to specify the maximum number of files that can be open at the same time. Please ensure that in your CONFIG.SYS file, FILES= is set to at least 40 (FILES=40). You will need to reboot your PC after modifying CONFIG.SYS for the changes to take effect.

Installation

To install Win3500Plus, insert Disk 1 into your floppy drive and run SETUP.EXE. The Win3500Plus installation program will guide you through the installation.

If you are currently using Win3500, installing Win3500Plus will not overwrite any of your existing files as long as you install Win3500Plus in a different directory. The default installation directory for Win3500Plus is c:\win3500p in 16-bit versions of Windows and c:\program files\win3500p in 32-bit versions of Windows. However, during the installation process you will be given the opportunity to specify a different location if desired.

Chapter 3 – General Operation

Hardware Setup

Refer to the 3500Plus System Controller manual for hardware setup information including installation of the serial port cable between the controller and your PC (or optional external modem). After the cable or modem has been installed, apply power to the routing switcher system and setup the software.

Software Setup

After the hardware has been setup, start Win3500Plus and setup the software as follows:

Set Initial User Name

The first time Win3500Plus is started, the USER window will be displayed and you will be prompted to enter a user name. The eight-character alphanumeric string entered here may be changed later.

1. Enter "PESAUSER" in the **User Name** box (this is just an example, you may enter a different user name if you wish)
2. Click the **OK** button

Establish Serial Port Connection

The PC running Win3500Plus can be connected to the 3500Plus System Controller by cable or by modem. Choose one of the two following methods to establish your connection:

Method A - For Cable Connection

Open the **System** menu and select **Communications**. When the CPU LINK SETUP window is displayed, select the serial port on your PC which is connected to the 3500Plus System Controller (the default is COM1).

Next, select the communication speed that the 3500Plus System Controller has been configured to use. This will be a baud rate of either 9600 or 38400, and is determined by a DIP switch setting on the controller. See the 3500Plus System Controller manual for more information about this DIP switch.

The other serial port parameters (Stop Bits, and Parity) are automatically set by Win3500Plus.

Method B - For Modem Connection

Configure your Local Modem by setting the following parameters as shown:

1. Data Bits = 8
2. Parity = None
3. Stop Bits = 1
4. Hardware (RTS/CTS) Flow Control = Enabled

To configure the Remote Modem, see "Configure Remote (Modem)" on page 21.

Test Serial Port Connection

To verify that the serial link between your PC and the 3500Plus System Controller is functioning correctly, perform the CPU Link Test shown on page 75. This test should be performed for either a direct cable connection or a modem connection.

Create A User Account

NOTE: User accounts provide an optional means of restricting access to certain routing switcher functions on a user-by-user basis.

Open the **System** menu, select **User Account**, and when the USER ACCOUNT window (Figure 3 on page 18) is displayed:

1. Click the **Add** button.
2. Type “PESAUSER” in the **User Name** box.
3. Check the **All Privileges** box.
4. Click the **Change Password** button. When the PASSWORD window is displayed, type “USERPASS” in the **Password** box and click the **OK** button. When the VERIFY PASSWORD window is displayed, type “USERPASS” in the **Password** box and click the **OK** button.
5. Click the **OK** button in the USER ACCOUNT window.
6. Click the **Exit** button to close the USER ACCOUNT window.

Create A Sample Configuration

NOTE: Configuration passwords are optional and rarely used on most systems. While the use of password protection is illustrated below, you will probably not use this feature when creating your operational configuration.

Open the **File** menu, select **Save Configuration**, and when the CONFIGURATION SAVE window is displayed:

1. Type “PESACONF” in the **Configuration Directory** box.
2. Click the **OK** button.

When the CONFIGURATION INFORMATION window is displayed:

1. Type “PESA SAMPLE 1” in the **Configuration Name** box.
2. Leave **Chop Rate** set to 1.
3. Click on the **Password Protected** box. When the PASSWORD window is displayed, type “CONFPASS” in the **Password** box and click the **OK** button. When the VERIFY PASSWORD window is displayed, type “CONFPASS” in the **Password** box and click the **OK** button.
4. Click the **OK** button.

Software Setup Summary

You have now:

1. Established and tested a serial port connection to the 3500Plus System Controller.
2. Created a User Account named PESAUSER which has all privileges and is protected with the password USERPASS.
3. Created a Configuration named PESA SAMPLE 1 which is protected with the password CONFPASS and is stored in subdirectory c:\pesaconf.

NOTE: If your operational configuration will make use of user accounts or configuration passwords, be sure to delete the sample user account and configuration created in this chapter to avoid compromising system security.

Win3500Plus Data

There are three types of data used by Win3500Plus:

1 User Account Data. User account data (user name, user password, and privileges) are stored in nonvolatile memory in the 3500Plus System Controller.

2 Configuration Data. Only one configuration can be stored in nonvolatile memory in the 3500Plus System Controller. All other configurations must be stored on the PC, and then downloaded to the 3500Plus System Controller as needed.

3 Communication/Modem Settings.

a. Local modem settings are stored with your operating system’s other configuration information.

b. Remote Modem settings are stored on your PC in \win3500\program\rmcon.dbf.

NOTE: To prevent data loss, files associated with Configuration Data and Communication/Modem Settings should be included in your normal backup routine.

Chapter 4 – File Menu

Introduction

The **File** menu provides access to basic file management operations.

New Configuration

To create a new configuration, open the **File** menu and select **New Configuration**.

NOTE: Be sure to save your existing configuration before creating a new one. Win3500Plus will not prompt you to save before creating the new configuration and any changes made since your last save will be lost.

Open Configuration

To open an existing configuration, open the **File** menu and select **New Configuration**.

NOTE: Be sure to save your existing configuration before opening another one. Win3500Plus will not prompt you to save before creating the new configuration and any changes made since your last save will be lost.

Save Configuration

To save a new or modified configuration, open the **File** menu and select **Save Configuration**.

NOTE: You may not save a configuration to the working directory or any subdirectory of the working directory. The working directory is the directory where WIN3500 was installed. If you used the default settings of the installation program, this will be c:\win3500p in 16-bit versions of Windows and c:\program files\win3500p in 32-bit versions of Windows.

When the CONFIGURATION SAVE window is displayed:

1. Select the subdirectory where the configuration will be saved.
2. Click the **OK** button.

When the CONFIGURATION INFORMATION window is displayed:

1. Type (or change) the **Configuration Name**.
2. Change the **Chop Rate** if desired.
3. Select or deselect the **Password Protected** box.
4. Click the **OK** button.

Print Setup

To setup your printer, open the **File** menu and select **Print Setup**. This will open the standard print setup dialog box generated by your operating system.

Print

To print a copy of a configuration, open the **File** menu and select **Print**.

When the PRINT window (Figure 1) is displayed, select one of the following:

1. **Print Configuration** to print the entire configuration.
2. **Select Items to Print** to print only a selected portion of the configuration.
3. **Print Select Panels** to display the PANEL PRINT SELECTION window (Figure 2) to print configuration data for selected panels.

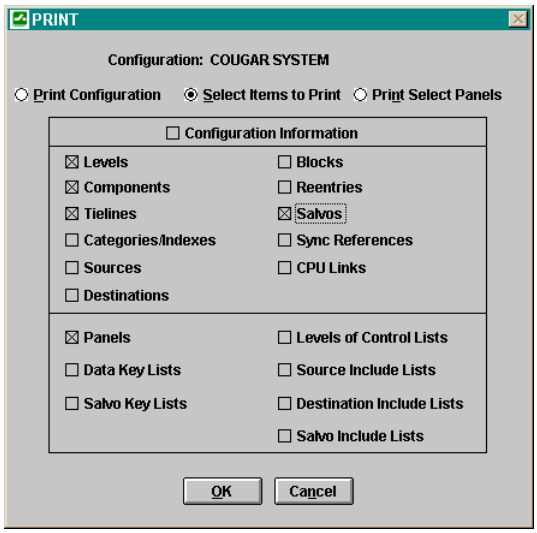


Figure 1 Print Window

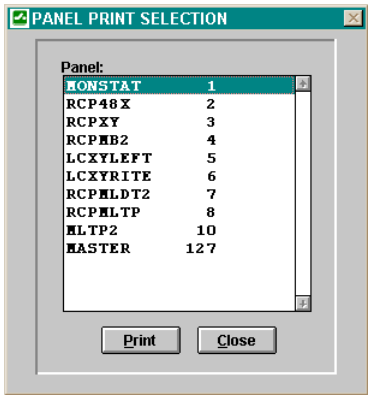


Figure 2 Panel Print Selection Window

Exit

To exit Win3500Plus, open the **File** menu and select **Exit**.

Chapter 5 – System Menu

Introduction

The **System** menu provides access to operations pertaining to the 3500Plus System Controller interface.

Log On to Controller

Open the **System** menu and select **Log On to Controller** to log on to the 3500Plus System Controller. When the LOG IN window is displayed, enter the user name and password (if assigned).

NOTE: It is not necessary to log on to the 3500Plus System Controller unless one or more user accounts have been created. If a functioning serial connection exists between the PC and the controller, as soon as Win3500Plus is started, the user will be connected to the controller.

The user will remained logged on until a log off command is issued, or until the user exits Win3500Plus.

Log Off of Controller

Open the **System** menu and select **Log Off of Controller** to log off of the 3500Plus System Controller.

Download Configuration to Controller

Open the **System** menu and select **Download Configuration to Controller** to download a configuration from the PC to the 3500Plus System Controller.

NOTE: To avoid data loss, be sure to save a copy of the configuration loaded in the 3500Plus System Controller before overwriting it with the downloaded configuration.

Upload Configuration from Controller

Open the **System** menu and select **Upload Configuration from Controller** to upload a configuration from the 3500Plus System Controller to the PC.

NOTE: To avoid data loss, be sure to save the configuration currently loaded in Win3500Plus before overwriting it with the uploaded configuration.

Controller Configuration Name

Open the **System** menu and select **Controller Configuration Name** to display the name of the configuration currently loaded in the 3500Plus System Controller.

User Account

Open the **System** menu and select **User Account** to display the USER ACOUNT window (Figure 3).

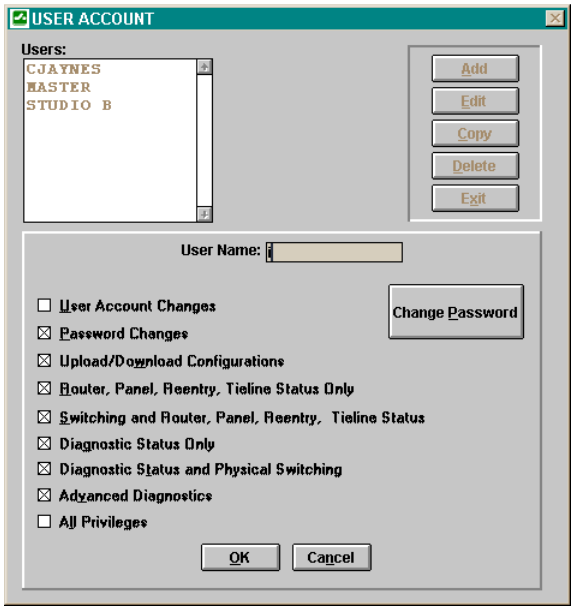


Figure 3 User Account Window

A user account is a set of privileges and an optional user password, saved as a user name. They provide a means of restricting access to certain system functions on a user-by-user basis.

NOTE: User accounts are an optional feature. If used, at least one user account must be assigned all privileges. If no user accounts are configured, all users have all privileges.

User account privileges are defined as follows:

1. **User Account Changes**: User is allowed to add, edit, or delete user accounts.

2. **Password Changes**: User is allowed to configure or change their password.
3. **Upload/Download Configurations**: User is allowed to upload and download configurations as well as perform online panel changes.
4. **Router, Panel, Reentry, Tieline Status Only**: User is allowed to obtain the status of the router, control panels, reentries, and tielines; but is not allowed to take switches and free tielines.
5. **Switching and Router, Panel, Reentry, Tieline Status**: User is allowed to the obtain the status of all switching system functions and to take switches and to free tielines.
6. **Diagnostic Status Only**: User is allowed to utilize the control system diagnostics to obtain the physical status (i.e. readback and confidence) of the switching system. This selection will not allow the user to perform physical switches or advanced diagnostics.
7. **Diagnostic Status and Physical Switching**: User is allowed to utilize the control system diagnostics to obtain the status of the switching system and to perform physical switches on the switching system.
8. **Advanced Diagnostics**: User is allowed to utilize the control system diagnostics to perform all diagnostic functions including physical switches. Some of the these capabilities include clearing configuration locks, disabling/enabling block checking, disabling/enabling the switcher, resetting the controller, resetting panels, and exporting text files to the controller.
9. **All Privileges**: User is allowed the full access to all controller features and user account management.

To copy an existing user account to a new user account, select the **User** to be copied, click the **Copy** button, enter the new **User Name**, and click the **OK** button.

To modify an existing user account, select the **User** to be modified, click the **Edit** button, make any desired changes, and click the **OK** button.

Once all changes to user accounts have been made, click the **Exit** button to close the USER ACCOUNT window. At this time all changes will be downloaded to the 3500Plus System Controller for storage.

Communications

Open the **System** menu and select **Communications** to display the CPU LINK SETUP window (Figure 4).

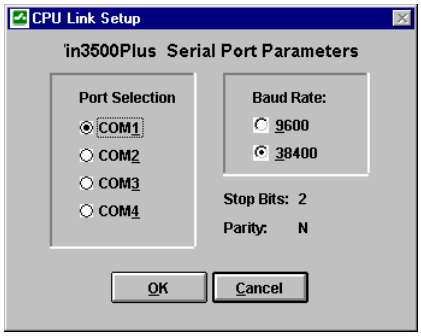


Figure 4 CPU Link Setup Window

Select the serial port on the PC which will be connected to the 3500Plus System Controller (the default is COM1).

Next, select the communication speed that the 3500Plus System Controller has been configured to use. This will be a baud rate of either 9600 or 38400, and is determined by a DIP switch setting on the controller. See the 3500Plus System Controller manual for more information about this DIP switch.

Click the **OK** button.

If the connection will be made by modem, select the port on the PC which has been assigned to the local modem.

The other serial port parameters (Stop Bits, and Parity) are automatically set by Win3500Plus.

Modem

In addition to controlling a 3500Plus System Controller through a direct serial port connection, Win3500Plus also has the capability to do so via modem over standard telephone lines. This requires two modems, a local modem at the PC and a remote modem at the 3500Plus System Controller. The remote modem must be properly configured before it can be connected to the 3500Plus System controller. See "Configure Remote (Modem)" on page 21 for more information.

Call Remote (Modem)

Open the **System** menu, select **Modem**, and then select **Call Remote** to display the CALL window (Figure 5).

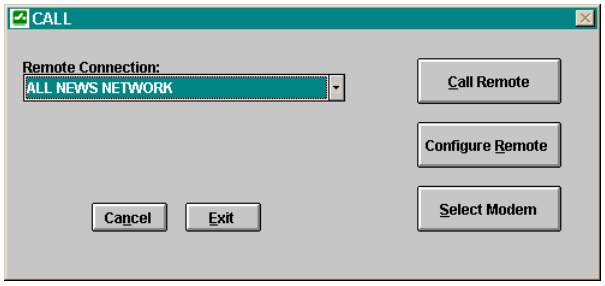


Figure 5 Call Window

To connect a PC to a 3500Plus System Controller by using a local modem at the PC and a remote modem at the controller:

1. Select the location to be called from the **Remote Connection** drop box.
2. Click the **Select Modem** button to display the MODEM window (Figure 7 on page 21). Select the type of remote modem and click the OK button to close the MODEM window.
3. Click the **Call Remote** button to initiate the call to the remote modem.

The list of remote locations is managed by clicking on the **Configure Remote** button to display the REMOTE CONNECTION window (Figure 6). Remote locations may then be added, edited, and deleted. Both the **Remote Connection** and **Phone** text boxes will accept alphanumeric strings up to 25 characters in length.

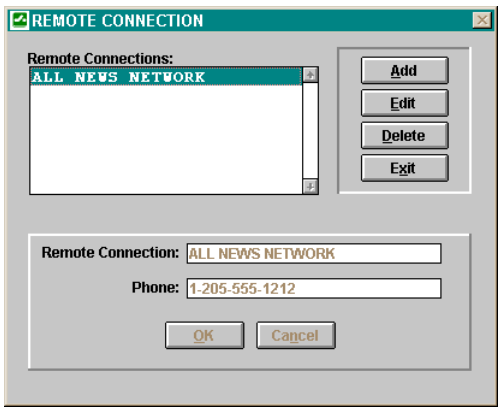


Figure 6 Remote Connection Window

Hang Up

Open the **System** menu, select **Modem** and then **Hang Up** to disconnect your PC from the remote modem.

Configure Remote (Modem)

Open the **System** menu, select **Modem** and then **Configure Remote** to display the MODEM window (Figure 7).

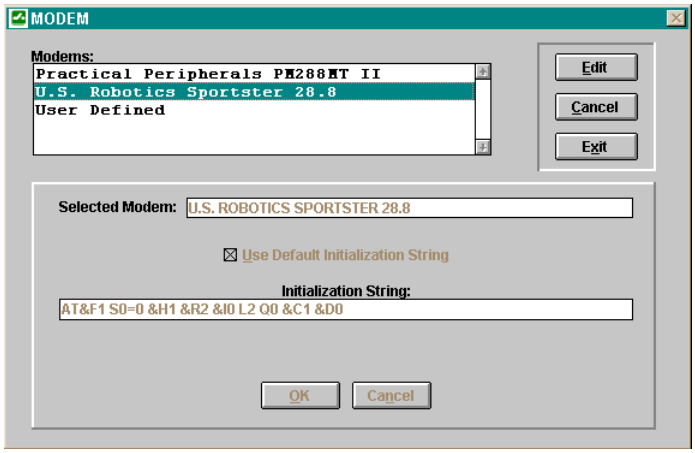


Figure 7 Modem Window

The remote modem must be an external type capable of being configured to automatically answer incoming calls. Because the 3500 System Controller does not output any modem configuration information, the remote modem must be completely transparent to the controller. The only modems tested by PESA for use as remote modems are the Practical Peripherals PM288MT II and the U.S. Robotics Sportster 28.8 using the following initialization strings:

PM288MT II: AT S0=2 Q1 X4 &C1 &D0 &K3 &S1 &W0 &Y0

Sportster 28.8: AT &F1 S0=2 &H1 &R2 &I0 L2 Q1 &C1 &D0 Y0 &W0

For more information about these modems and their initialization strings, see the Practical Peripherals web site at http://www.practical.com/ or the U.S. Robotics web

site at http://www.usr.com/. Before using any other type of modem for the remote modem, please consult with the PESA Customer Service Department.

Once a remote modem has been selected, it must be properly configured before it is connected to a 3500 System Controller. This is done by connecting the remote modem to a PC running WIN3500, transferring certain data into the remote modem, disconnecting the remote modem from the PC, and then connecting the remote modem to the controller.

Configure the remote modem as follows:

1. Open the **System** menu and select **Communications**. When the CPU LINK SETUP window (Figure 4 on page 19) is displayed, note the current port selection (for use in step 5 below), select the serial port on the computer that will be used to temporarily connect to the remote modem, and then click the **OK** button.
2. Open the **System** menu, select **Modem**, and then select **Configure Remote**. This will open the REMOTE MODEM CONFIGURATION window which states: "Please connect remote modem to Comm Port x for configuration". Connect the remote modem to the serial port specified and click the **OK** button.
3. The MODEM window (see Figure 7 on page 21) will now be displayed. Select the remote modem from the list shown and click the **Exit** button. The appropriate initialization string will now be sent to the remote modem where it will be stored in nonvolatile memory.
4. Disconnect the remote modem from the PC. It may now be transported to the remote location for connection to the 3500Plus System Controller.
5. Open the **System** menu and select **Communications**. When the CPU LINK SETUP window (Figure 4 on page 19) is displayed, return the port selection to its original state (before the change in Step 1 was made), and then click the **OK** button.

Set User

To create or edit configurations while not connected to a 3500Plus System Controller, open the **System** menu and select **Set User**. When prompted, enter a **User Name** and click the **OK** button.

The user name entered here will be attached to any configuration created or modified and will be displayed in the CONFIGURATION INFORMATION window (Figure 14 on page 29).

Chapter 6 – Router Menu

Introduction

The **Router** menu provides access to operations which involve directly accessing an operational routing switcher system in real time.

NOTE: The **Router** menu allows certain changes to be made directly to the configuration residing in the 3500Plus System Controller. The configuration residing in the PC is not updated to reflect these changes. In order to preserve a copy of the modified Configuration, it will be necessary to upload a copy of the configuration from the controller to the PC, and save it there.

Router Status

Open the **Router** menu and select **Router Status** to display the ROUTER STATUS AND CONTROL window (Figure 8). The information shown in this window is automatically updated as changes occur.

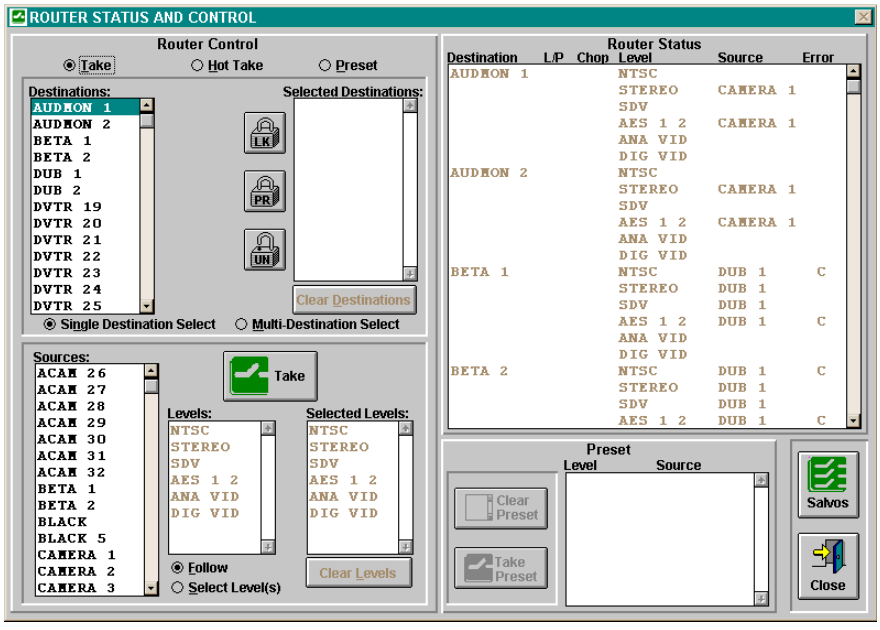


Figure 8 Router Status and Control Window

From this window it is possible to:

1. Execute takes and hot takes for single or multiple destinations as follow switches or breakaway switches.
2. Configure and take switches on presets.
3. Display and execute salvos.

Take Mode

NOTE: Single-click a destination to see its status. Double-click destinations and sources to select them for switches.

To take a switch in Take mode:

1. Select either the **Single Destination** or the **Multi-Destination** radio button
2. Select the Destination(s)
3. Select either the **Follow** or the **Select Level(s)** radio button
4. Select the Source (and Level(s) if applicable)
5. Click the **Take** button

Hot Take Mode

Hot Take mode is the same as Take mode except the switch is taken immediately when the source is selected.

NOTE: The source selection (by double-clicking) is the event that triggers the switch command in Hot Take mode. Before selecting the source, ensure that all destinations and levels have been selected.

Preset Mode

Preset mode allows you to take a switch using levels from different sources. To take a switch in Preset mode:

1. Select either the **Single Destination** or the **Multi-Destination** radio button
2. Select the Destination(s)
3. Select the **Select Level(s)** radio button
4. Select (by single-clicking) the first Source
5. One-by-one, select (by double-clicking) the levels of this source to be switched.
6. Repeat steps 4 and 5 for all other sources and levels.
7. Click the **Take Preset** button

Salvo

Clicking the **Salvo** button in the ROUTER STATUS AND CONTROL window opens the SALVO CONTROL window (Figure 9). Selecting a salvo will display its contents. To take the selected salvo, click the **Take** button.

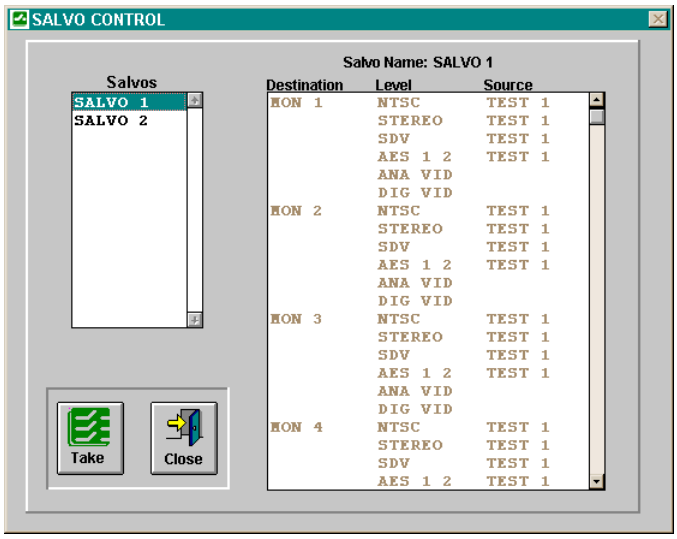


Figure 9 Salvo Control Window

Panel Status

Open the **Router** menu and select **Panel Status** to display the PANEL STATUS window (Figure 10). Click the **Refresh** button to update the information displayed.

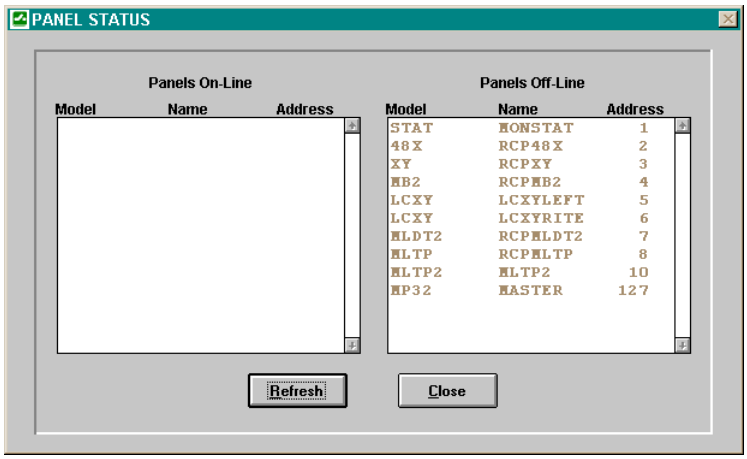


Figure 10 Panel Status Window

On-Line panels are those which are currently communicating with the controller.

A panel may be off-line for one or more of the following reasons:

1. Loss of power.
2. Bad data bus connection.
3. Internal hardware failure.

4. Panel address DIP switch setting different from address in configuration.

Online Panel Cfg

Open the **Router** menu and select **Online Panel Cfg** to display the PANEL window (Figure 43).

Online Panel configuration allows control panels to be added and modified without having to take the control system offline and download a new configuration. However, because of the potential impact involved, online panel deletion is not permitted.

Online configuration of panels is performed in the same manner as offline configuration. For more information, see “Panel” on page 54.

NOTE: Configuration changes made with Online Panel Configuration are sent directly to the 3500Plus System Controller and are not saved in the configuration currently open in Win3500Plus.

Reentry Status

Open the **Router** menu and select **Reentry Status** to display the REENTRY STATUS window (Figure 11). Click the **Refresh** button to update the information displayed.

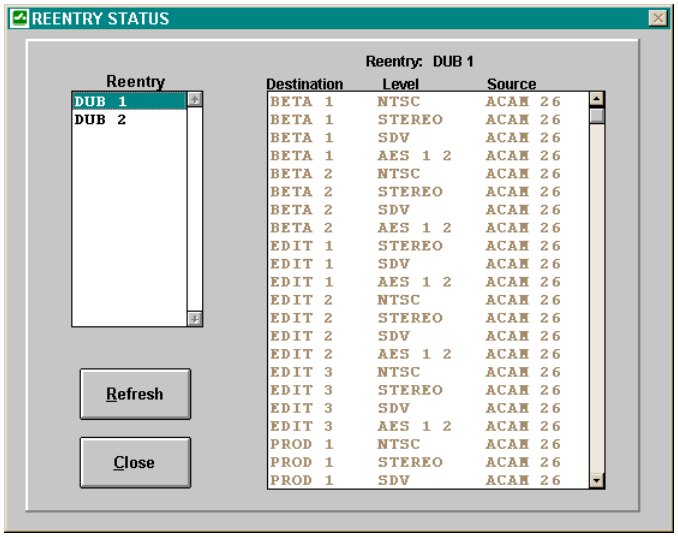


Figure 11 Reentry Status Window

This window displays direct source-to-destination status for every configured reentry.

Sync Ref Status

Open the **Router** menu and select **Sync Ref Status** to display the SYNC REFERENCE STATUS window (Figure 12). Click the **Refresh** button to update the information displayed.

NOTE: If only the default Sync Reference SYNC1 is configured, this window will not be displayed. To configure additional Sync References, see “Sync Reference” on page 49.

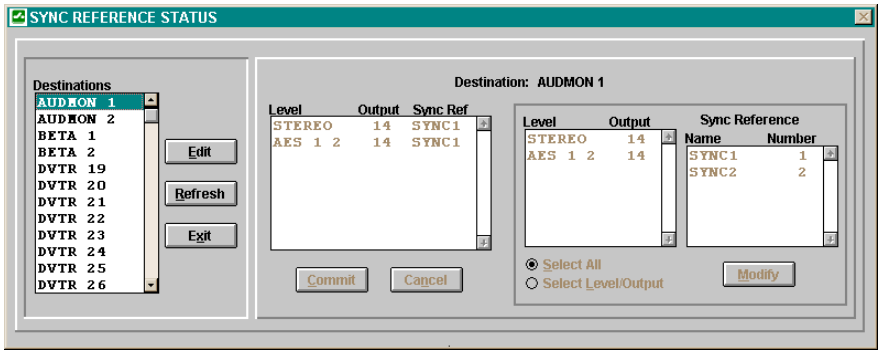


Figure 12 Sync Reference Status Window

To change the Sync Ref for a Destination:

1. Select the Destination to be changed
2. Click the **Edit** button
3. To change the Sync Ref for all levels, select the **Select All** radio button. To change Sync Ref for selected levels, select the **Select Level/Output** radio button and select the first level to be changed.
4. Click the **Modify** button.
5. Repeat steps 3 and 4 for all levels to be changed.
6. When all levels have been changed, click the **Commit** button to send the change to the 3500Plus System Controller.

Tieline Status

Open the **Router** menu and select **Tieline Status** to display the TIELINE MANAGEMENT window (Figure 13). Click the **Refresh** button to update the information displayed.

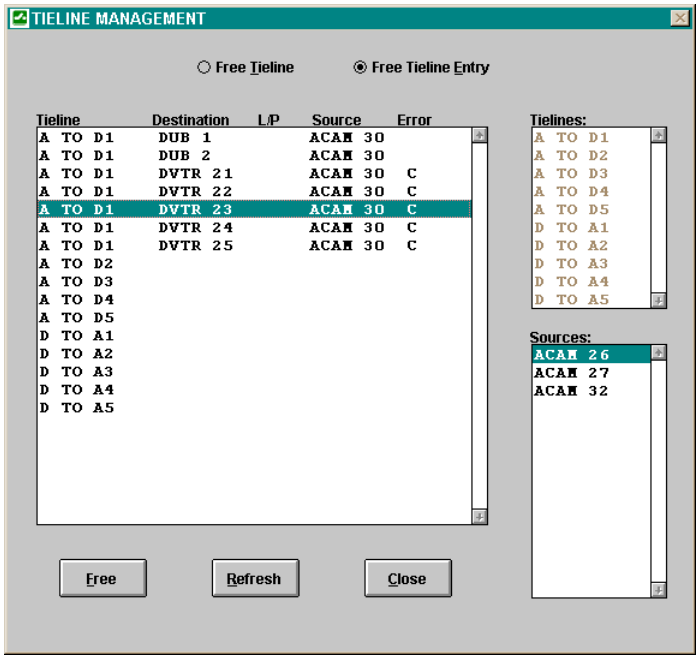


Figure 13 Tieline Management Window

Since each tieline can only be used by a single source, they are a limited resource which, periodically, may need to be reallocated to different sources. This is done by freeing the tieline. A tieline is freed when all destinations using the tieline have been switched to other sources.

A source using a tieline, just like any other source, may be switched to multiple destinations at any given time. This window should be consulted before freeing a tieline so the full scope of the intended change may be seen. Every configured tieline will be listed and, for each tieline currently in use, the source and every destination will also be shown.

NOTE: When a tieline is freed, all affected destinations will be switched to the selected source. To avoid unexpected results, ensure that the desired source has been selected before clicking the **Free** button.

To free a tieline in its entirety:

1. Select the **Free Tieline** radio button.
2. Select the **Source** that will be switched to all destinations currently using the tieline.
3. Select any **Destination** using the tieline.
4. Click the **Free** button.

To free a single destination using a tieline:

1. Select the **Free Tieline Entry** radio button.
2. Select the **Source** that will be switched to the destination.
3. Select a **Destination** to be switched.
4. Click the **Free** button. Repeat as required.

Chapter 7 – Configuration Menu

Introduction

The **Configuration** menu provides access to operations which involve creating, and managing configurations. While these operations may be performed while either offline or connected to a 3500Plus System Controller, they will not take effect until downloaded to the controller.

Configuration Information

Open the **Configuration** menu and select **Configuration Information** to display the CONFIGURATION INFORMATION window (Figure 14). This window shows information about the configuration currently open in Win3500Plus.

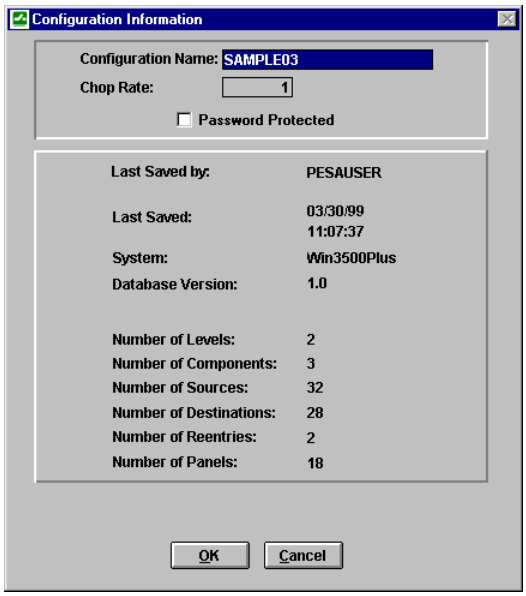


Figure 14 Configuration Information Window

To name or rename the current configuration, enter the desired name in the **Configuration Name** box. Configuration names may have up to 32 alphanumeric characters. This name will appear in the Win3500Plus title bar and may be queried from the 3500Plus System Controller.

To change the chop rate, enter the desired value in the **Chop Rate** box. The range of Chop Rates the Win3500Plus Control System can be configured for is shown in Table 1 on page 1.

To password protect the current configuration, check the **Password Protected** box to open the PASSWORD window. Enter the desired password (one to eight, upper case, alphanumeric characters) into the **Password** box and click the **OK** button to return to the CONFIGURATION INFORMATION window.

After all changes have been made to configuration name, chop rate and password, click the **OK** button to close the CONFIGURATION INFORMATION window.

Level

Open the **Configuration** menu and select **Level** to display the LEVEL window (Figure 15). This will allow you to add, edit, and delete levels. The maximum number of levels allowed is shown in Table 1 on page 1.

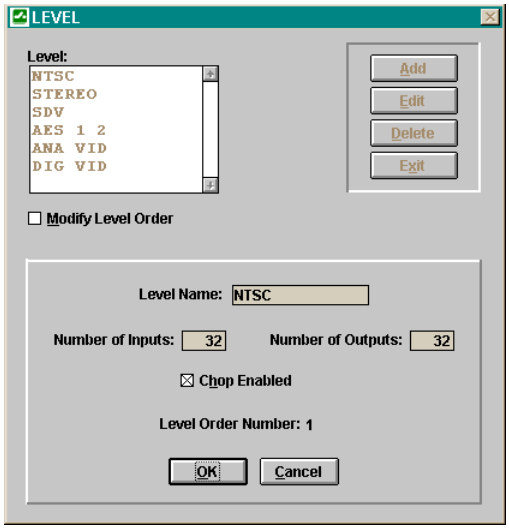


Figure 15 Level Window

A level is a group of related components that are switched together by Win3500Plus. The example shown in Figure 16 is a 2x2 RGB video level named VID which is made up of three components named RED, GRN and BLU.

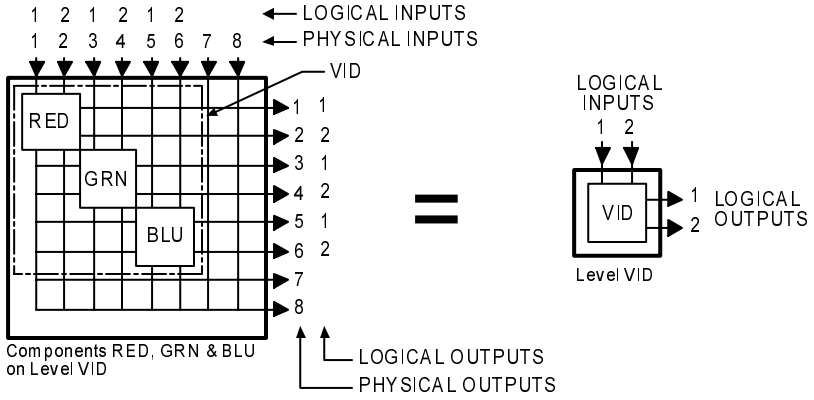


Figure 16 A 2x2 RGB Level

To add a level:

1. Click the **Add** button.
2. Enter the level name in the **Level Name** box. Level names are one to eight characters in length and are constructed using uppercase letters, numbers, and spaces. The first character must be a letter. For the example shown in Figure 16, “VID” would be used.
3. Specify the **Number of Inputs** and **Number of Outputs** for the Level. The maximum number of inputs or outputs per level is shown in Table 1 on page 1. The inputs and outputs referred to here are logical inputs and logical outputs. For the example shown in Figure 16, “2” and “2” would be used.
4. Enable **Chop** if desired (Chop should usually be enabled for all video levels and disabled for all audio levels).
5. If you wish to change the level order for this level, check the **Modify Level Order** box to open the LEVEL ORDER window (Figure 17). Use the **Move** and **Remove** buttons to construct a new list of levels in the desired order. Level order controls the order of display when levels are displayed on a control panel or addressed in CPU link protocols.
6. Click the **OK** button.

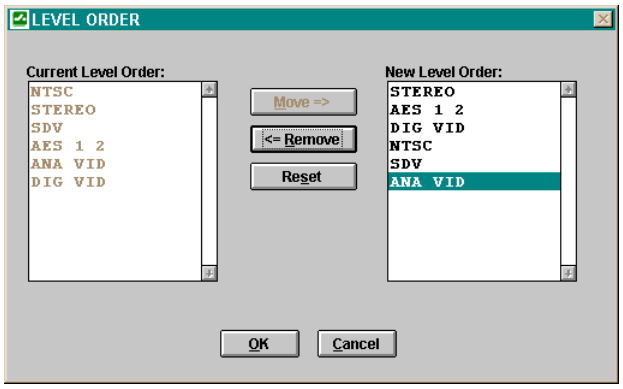


Figure 17 Level Order Window

Deleting Levels

Choosing to delete a Level on a fully configured system may have a significant effect on all items which the level is associated with. Under these circumstances, selecting Delete will open the LEVEL DELETE window (Figure 18), which displays all of the potentially impacted items. If there are no impacted items, such as is the case with a new configuration, the CONFIRM DELETE window will be displayed instead.

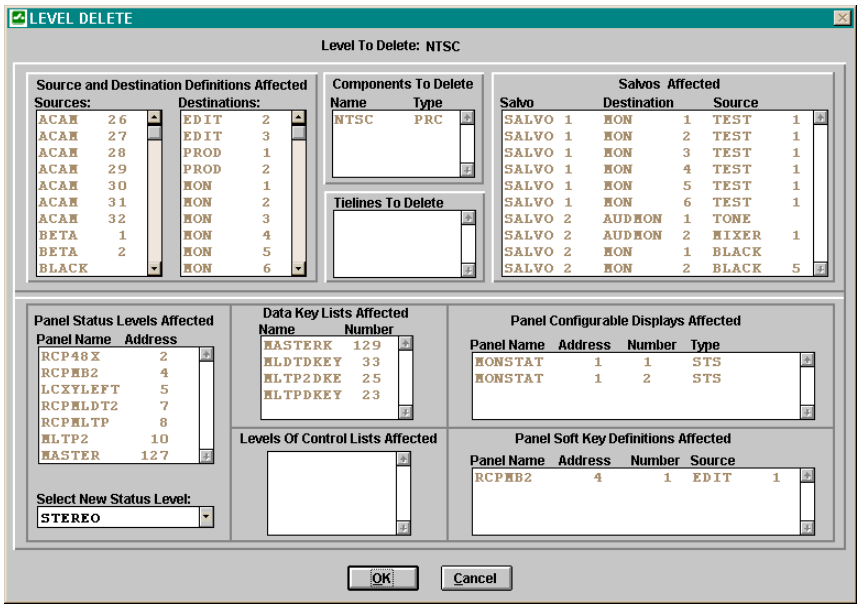


Figure 18 Level Delete Window

The LEVEL DELETE window displays all items that may be affected by the deletion of a level. Deleting a level results in the following:

1. The deletion of the part of a source's or destination's definition on that level
2. The deletion of any components associated with that level
3. The deletion of any tielines defined on that level
4. The deletion of any salvo entries defined on that level
5. The blanking out of the status level for any panels having the selected level as the status level
6. Levels of control lists containing the selected level will have it deleted from their lists
7. Any panels with configurable displays (i.e. RCP-STAT Control Panels) with the selected level as part of their display will be blanked out
8. Any panels with soft keys defined on the selected level will have the entry for the selected level deleted

Component

Open the **Configuration** menu and select **Component** to display the COMPONENT window (Figure 19). This will allow you to add, edit, and delete components. The maximum number of components allowed is shown in Table 1 on page 1.

NOTE: At least one Level must be configured before the COMPONENT window will be displayed.

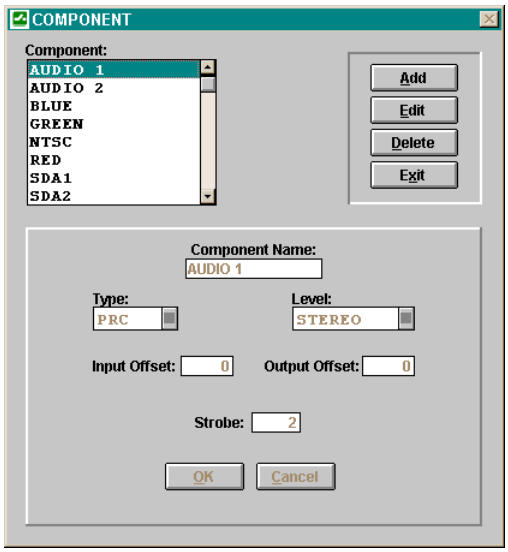


Figure 19 Component Window

A component is the most basic signal element which can be switched by a single crosspoint. For example, in RGB video, “Red”, “Green”, and “Blue” are components; in stereo audio, “Left” and “Right” are components. The example shown in Figure 20 is a 2x2 RGB video level named VID which is made up of three components named RED, GRN and BLU.

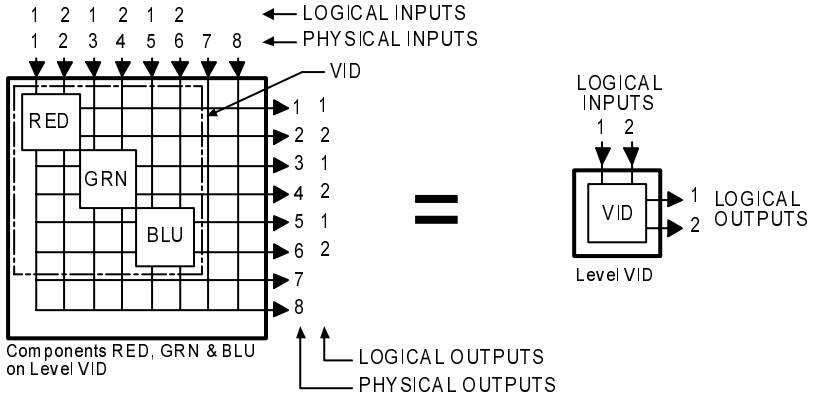


Figure 20 The Components of a 2x2 RGB Level

To add a component:

1. Click the **Add** button.
2. Enter the component name in the **Component Name** box. Component names are one to eight characters in length and are constructed using uppercase letters, numbers, and spaces. The first character must be a letter. For the example shown in Figure 20, “RED” would be used for the first component, “GRN” for the second, and “BLU” for the third.
3. Select the **Type** of routing switcher used for this component (PRC or RM5).
4. Select the level this component will be associated with from the **Level** drop box. For the example shown in Figure 20, “VID” would be used for all three components.

5. Enter the amount of **Input Offset** and **Output Offset**. Acceptable values for input and output offsets are shown in Table 1 on page 1. For the example shown in Figure 20, “0” and “0” would be used for the component “RED”; “2” and “2” would be used for the component “GRN”; and “4” and “4” would be used for the component “BLU”.For more information about these fields, see “Input Offset” on page 89 and “Output Offset” on page 94.

NOTE: Win3500Plus allows components to overlap in matrix space. Care should be taken when entering offsets to ensure that any resulting overlap of components is intentional.

6. Enter the **Strobe** assigned to the routing switcher which contains the component. Acceptable values for strobe are shown in Table 1 on page 1.

   Every routing switcher in a switching system is assigned a strobe. This is usually accomplished by setting a DIP switch on the back of the routing switcher. Strobes do not have to be unique and, in larger systems, each strobe might be associated with several routing switchers.

   In many switching systems, strobes are used to group levels of the same type together. For example, video may be on Strobe 1, audio on Strobe 2, etc.

7. Click the **OK** button.
8. Repeat steps 1 through 7 for each component being configured.

Tieline

Open the **Configuration** menu and select **Tieline** to display the TIELINE window (Figure 21). This will allow you to add, edit, and delete tielines. The maximum number of tielines allowed is shown in Table 1 on page 1.

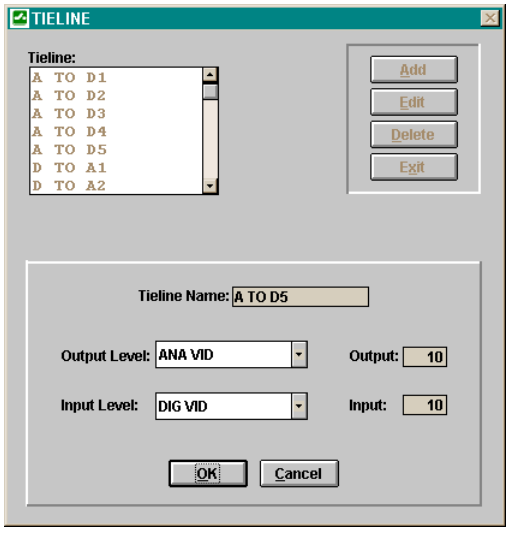


Figure 21 Tieline Window

A tieline is a special type of logical switch that allows a logical input on one level to be switched to a logical output on a different level. The example shown in Figure 22 demonstrates a tieline being used to route a video signal from an analog camera, through an external analog-to-digital converter, to a digital VTR.

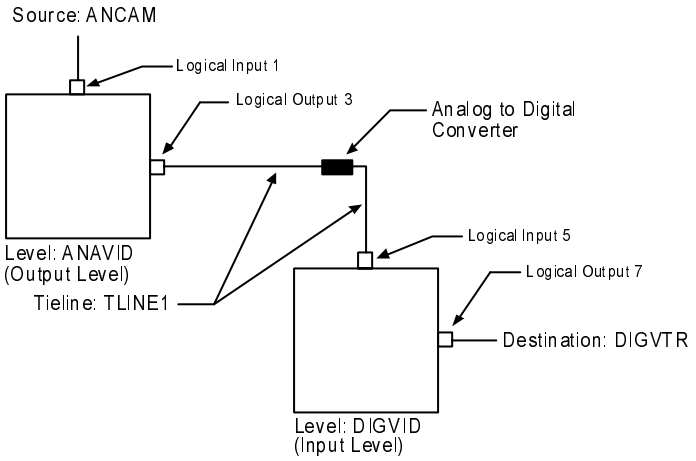


Figure 22 Configuring a Tieline

To add a tieline:

1. Click the **Add** button.
2. Enter the **Tieline Name**. Tieline names are one to eight characters in length and are constructed using uppercase letters, numbers, and spaces. The first character must be a letter. For the example shown in Figure 22, "TLINE1" would be used.
3. Select the **Output Level** from the drop box and enter the **Output** number. For the example shown in Figure 22, "ANAVID" and "3" would be used.
4. Select the **Input Level** from the drop box and enter the **Input** number (this is the logical input number). For the example shown in Figure 22, "DIGVID" and "5" would be used.
5. Click the **OK** button.

Once a tieline has been configured, it may then be used by a source. For more information about how to configure a source to use a tieline, see "Source" on page 39.

Category

Open the **Configuration** menu and select **Category** to display the CATEGORY window (Figure 23). This will allow you to add, edit, and delete categories. The maximum number of categories allowed is shown in Table 1 on page 1.

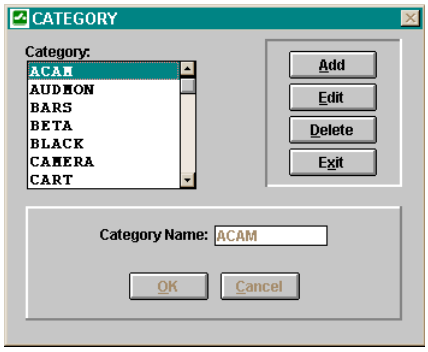


Figure 23 Category Window

A category is the first portion of a source, destination, or reentry name. They provide an easy means of classifying and grouping switching system devices.

To add a category:

1. Click the **Add** button.
2. Enter the **Category Name**. Category names are one to six characters in length and are constructed using uppercase letters and numbers. The first character must be a letter. Imbedded spaces are not permitted.
3. Click the **OK** button.

Editing Categories

When a category name is edited, all source, destination, and reentry names using the old name will automatically be updated to use the new name.

Deleting Categories

Choosing to delete a category on a fully configured system may have a significant effect on all items which the category is associated with. Under these circumstances, selecting Delete will open the CATEGORY DELETE window (Figure 24), which displays all of the potentially impacted items. If there are no impacted items, such as is the case with a new configuration, the CONFIRM DELETE window will be displayed instead.

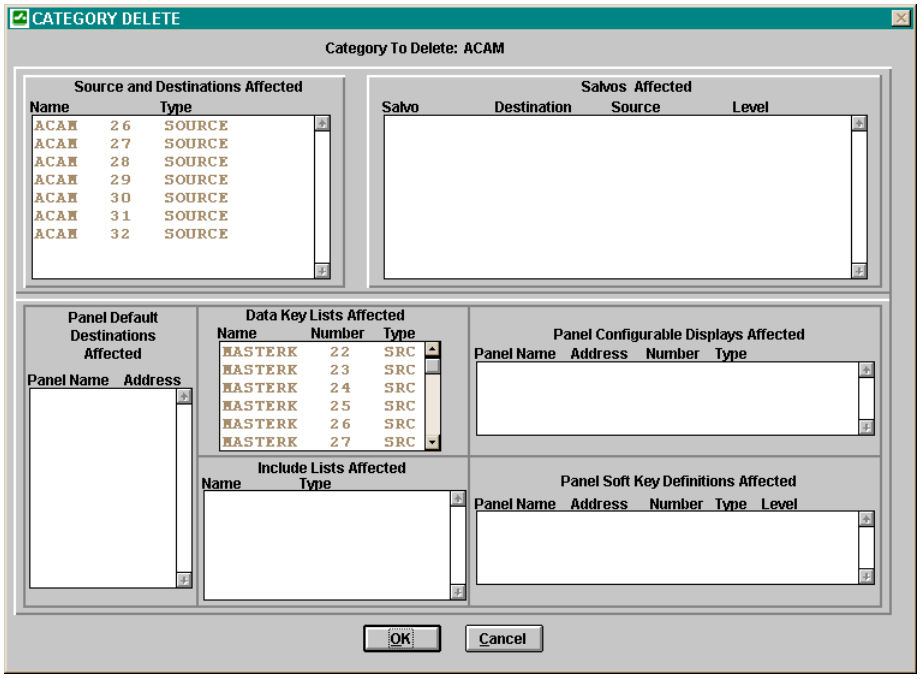


Figure 24 Category Delete Window

The CATEGORY DELETE window displays all items that may be affected by the deletion of a category. Deleting a category results in the following:

1. The deletion of any sources, destinations, or reentries whose name contains the category name as part of their name
2. The deletion of any salvo entries that contain sources or destinations that use the category name
3. The blanking out of the default destination for any panels using a destination that uses the category name
4. The deletion of any entries in any data key lists or include lists that use the category name by itself or as part of a source or destination name
5. The blanking out of any panels with configurable displays (i.e. RCP-STAT Control Panels) containing destinations that contain the category name
6. The deletion of any entries in any soft key lists that use the category name as part of a source or destination name

Index

Open the **Configuration** menu and select **Index** to display the INDEX window (Figure 25). This will allow you to add, edit, and delete indices. The maximum number of indices allowed is shown in Table 1 on page 1.

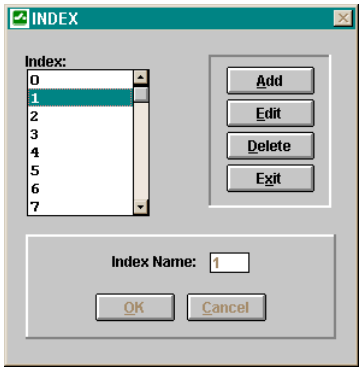


Figure 25 Index Window

An index is the last portion of a source, destination, or reentry name. They provide an easy means of differentiating similar switching system devices.

To add an index:

1. Click the **Add** button.
2. Enter the **Index Name**. Index names are one character in length and are constructed using uppercase letters and numbers. The character 0 (zero) is a default index name which may not be changed or deleted.
3. Click the **OK** button.

Editing Indices

When an index name is edited, all source, destination, and reentry names using the old name will automatically be updated to use the new name.

The character 0 (zero) is a default index name which may not be changed or deleted.

Deleting Indices

Choosing to delete an index on a fully configured system may have a significant effect on all items which the index is associated with. Under these circumstances, selecting Delete will open the INDEX DELETE window (Figure 26), which displays all of the potentially impacted items. If there are no impacted items, such as is the case with a new configuration, the CONFIRM DELETE window will be displayed instead.

The character 0 (zero) is a default index name which may not be changed or deleted.

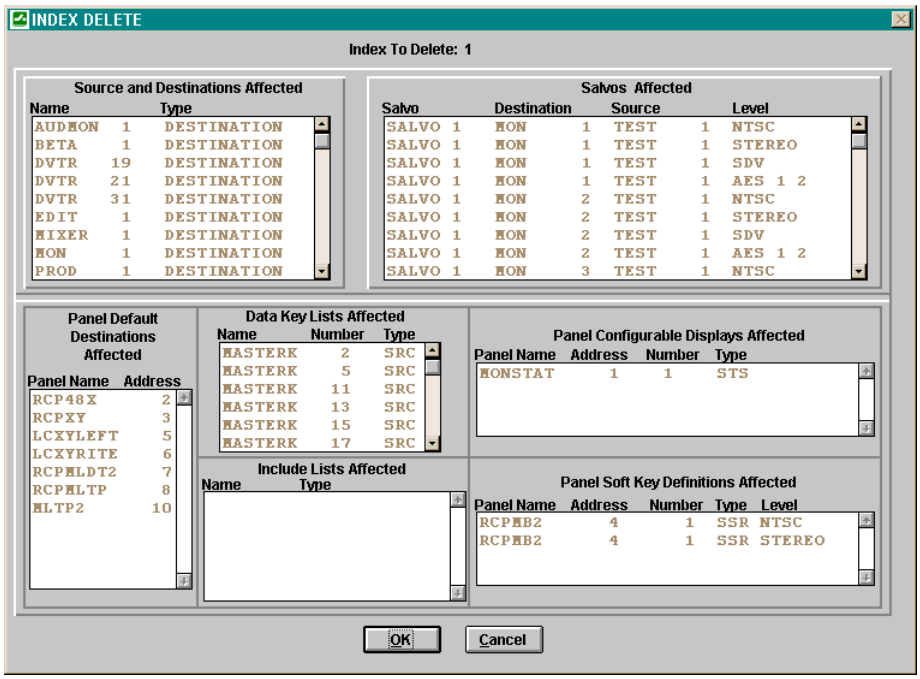


Figure 26 Index Delete Window

The INDEX DELETE window displays all items that may be affected by the deletion of an index. Deleting an index results in the following:

1. The deletion of any sources, destinations, or reentries whose name contains the index name as part of their name
2. The deletion of any salvo entries that contain source or destinations that use the index name
3. The blanking out of the default destination for any panels using a destination that uses the index name
4. The deletion of any entries in any data key lists or include lists that use the index name by itself or as part of a source or destination name
5. The blanking out of any panels with configurable displays (i.e. RCP-STAT Control Panels) containing destinations that contain the index name
6. The deletion of any entries in any soft key lists that use the index name as part of a source or destination name

Source

Open the **Configuration** menu and select **Source** to display the SOURCE window (Figure 27). This will allow you to add, edit, and delete sources. The maximum number of sources allowed is shown in Table 1 on page 1.

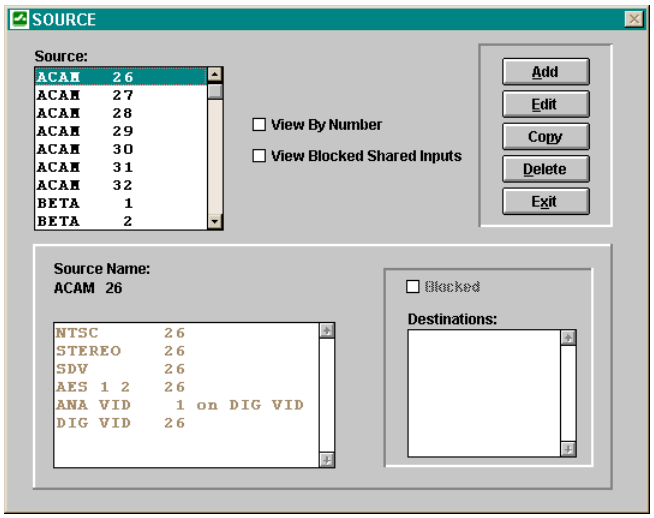


Figure 27 Source Window

NOTE: If you are using CPU Link Protocol 1, you may wish to enable **View By Number** to display the source number assigned to each source. These numbers will be shown on the left side of the **Source** list box.

When configuring a switching system, it may be desirable to use source blocking to restrict the switching of certain logical inputs. This may be done while configuring either sources or destinations.

Since a blocked source may contain a logical input that is shared (used by more than one source), care should be taken to ensure that all sources using the logical input are blocked from the destination to be protected.

Check the View Blocked Shared Inputs check box to display the BLOCKED SHARED INPUTS window (Figure 28). This window will only be displayed if at least one source block exists. The blocking status of shared inputs will be indicated by one of three messages displayed in red under the **Blocked Sources** list box

Selected Blocked Source Has No Shared Inputs: No shared inputs exist for the source selected.

All Shared Inputs of Selected Source Are Blocked: One or more shared inputs exist and the destination has been protected by blocking every source using any of the shared inputs.

Block Conflict Exists: All Shared Inputs of Selected Source Are Not Blocked: One or more shared inputs exist and the destination may not be adequately protected. At least one source using a restricted input has not been blocked from the destination.

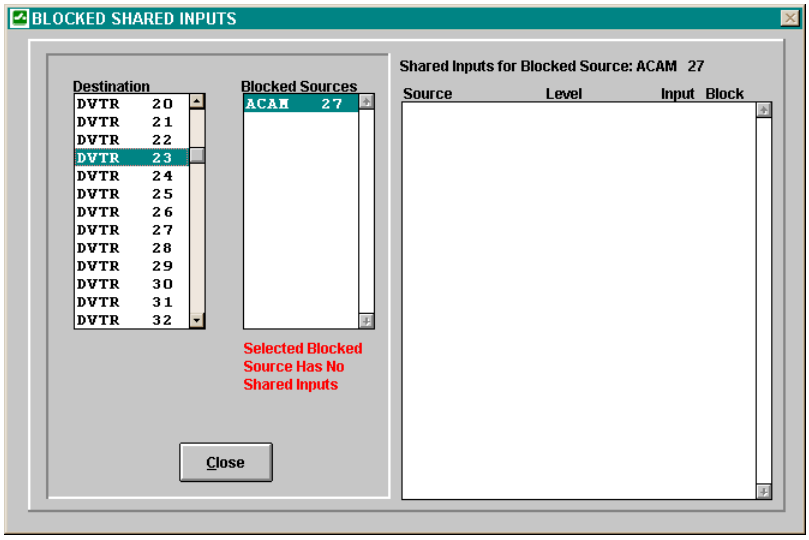


Figure 28 Blocked Shared Inputs Window

To add a source:

1. Click the **Add** button in the SOURCE window to open the SOURCE CONFIGURATION window (Figure 29).
2. Create the source name by selecting a **Category** and an optional **Index** from the **Edit Name** drop boxes. If no index is selected, the default "00" (which is not displayed) will be used.
3. If one or more tielines have been configured, the **Tieline** button will be enabled. Clicking this button will open the TIELINE SOURCE DEFINITION window (Figure 30) which will allow the use of a tieline input for a **Selected Level**:

   a) Select the **Source Level**. For the example shown in Figure 31, "DIGVID" would be used.

   b) Select the **Tieline Level**. For the example shown in Figure 31, "ANAVID" would be used.

   c) Enter the **Tieline Level Input**. For the example shown in Figure 31, "1" would be used.

   d)Click **Modify** to update the **Source Definition** list box.

   e) Once all desired tieline connections are created, click **OK** to return to the SOURCE CONFIGURATION window.
4. Use the **Move** and **Remove** buttons to build the **Selected Levels** list using levels associated with the first **Input Number** to be used.
5. Select the first **Input Number** (logical input, not physical input).

NOTE: Selecting **Input Number** "0" for any level will result in that level being omitted from the source being configured.

6. Tab out of the **Input Number** list box or click on another field to update the **Source Definition** list box.
7. Repeat steps 4 through 6 for all **Input Numbers** being used.

8. Select the **Block** radio button to enable the source block section. Use the **Move** and **Remove** buttons to build the **Blocked Destinations** list.

9. Verify that all information shown in the **Source Definition** box is correct and then click the **OK** button to close the SOURCE CONFIGURATION window.

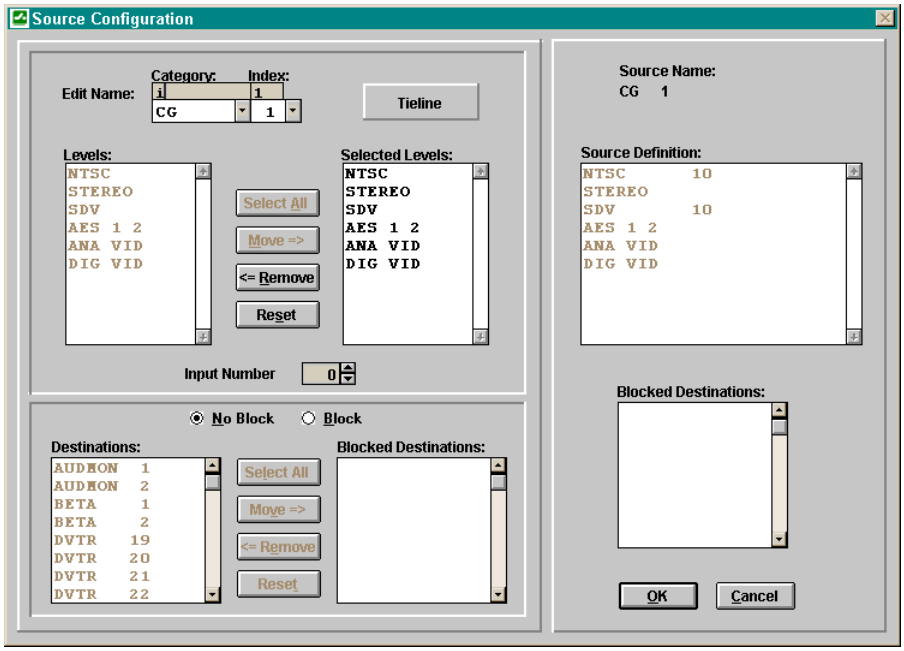


Figure 29 Source Configuration Window

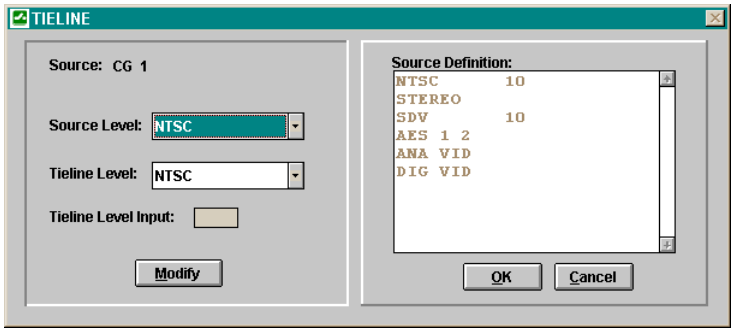


Figure 30 Tieline Source Definition Window

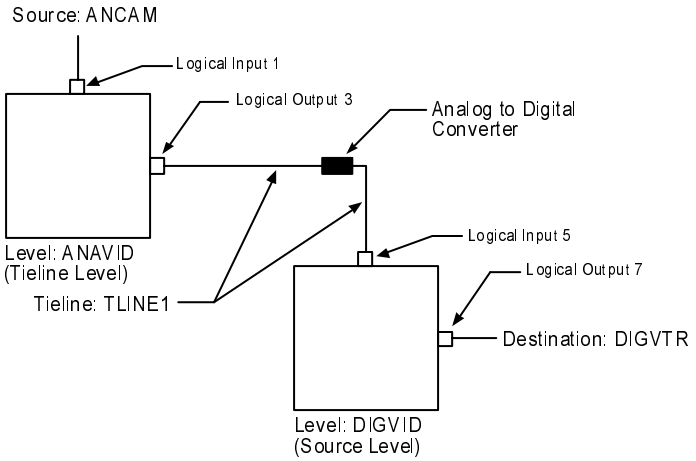


Figure 31 Configuring a Source to use a Tieline

To modify an existing source, select the source to be changed and click on the **Edit** button. This will open the SOURCE CONFIGURATION window (Figure 29) where any desired changes may be made.

To create a source based on an existing one, select the existing source and click on the **Copy** button. This will open the SOURCE CONFIGURATION window (Figure 29). When this window opens, select a new source name, and change the displayed source information as required.

Deleting Sources

Choosing to delete a source on a fully configured system may have a significant impact on all items with which the source is associated. Under these circumstances, selecting **Delete** will open the SOURCE DELETE window (Figure 32) which displays all of the potentially impacted items. If there are no impacted items, such as is the case with a new configuration, the CONFIRM DELETE window will be displayed instead.

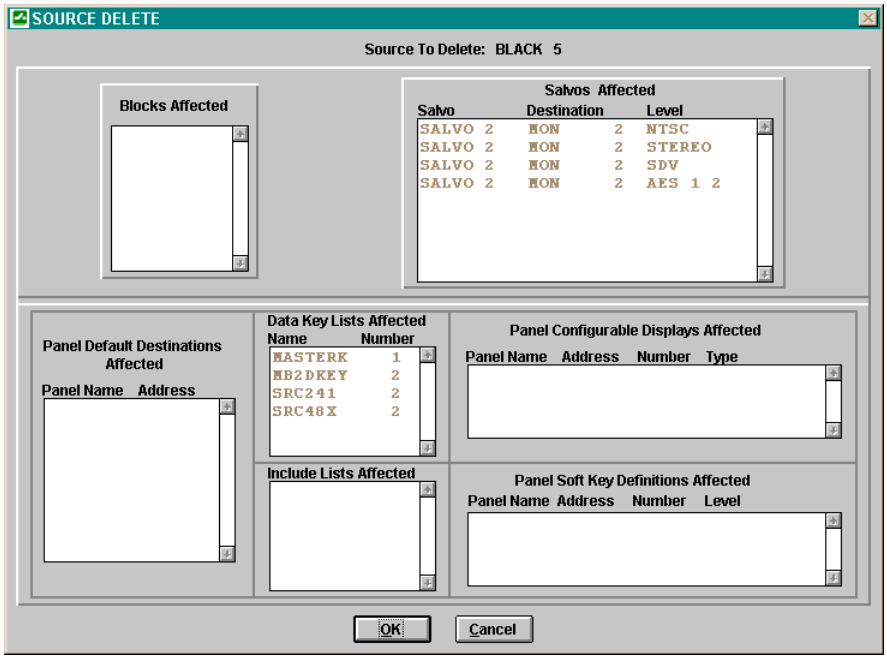


Figure 32 Source Delete Window

The SOURCE DELETE window displays all items that may be affected by the deletion of a source. Deleting a source results in the following:

1. The removal of any blocks affected by the deletion of the source
2. The deletion of any salvo entries that contain the source
3. The control panel default destinations are unaffected
4. Entries in any data key lists or include lists that use the source are deleted
5. Configurable displays are only impacted by destinations so they are unaffected
6. Any control panel soft key definitions defined as the source are deleted

Destination

Open the **Configuration** menu and select **Destination** to display the DESTINATION window (Figure 33). This will allow you to add, edit, and delete destinations. The maximum number of destinations allowed is shown in Table 1 on page 1.

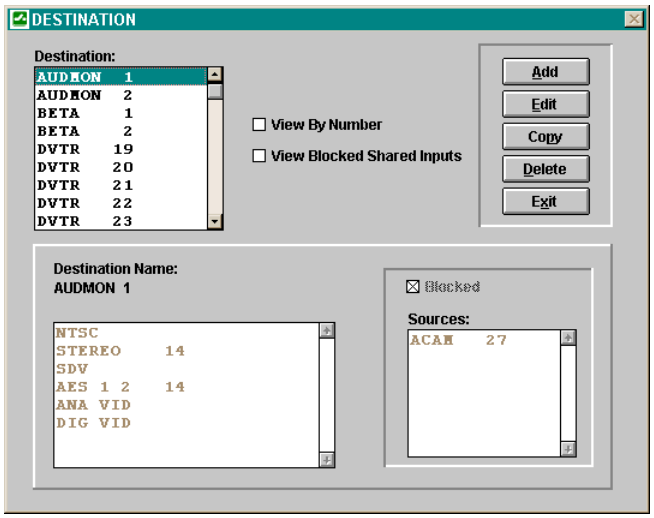


Figure 33 Destination Window

NOTE: If you are using CPU Link Protocol 1, you may wish to enable **View By Number** to display the destination number assigned to each destination. These numbers will be shown on the left side of the **Destination** list box.

When configuring a switching system, it may be desirable to use source blocking to restrict the switching of certain logical inputs. This may be done while configuring either sources or destinations.

Since a blocked source may contain a logical input that is shared (used by more than one source), care should be taken to ensure that all sources using the logical input are blocked from the destination to be protected.

Check the View Blocked Shared Inputs check box to display the BLOCKED SHARED INPUTS window (Figure 28). This window will only be displayed if at least one source block exists. The blocking status of shared inputs will be indicated by one of three messages displayed in red under the **Blocked Sources** list box

Selected Blocked Source Has No Shared Inputs: No shared inputs exist for the source selected.

All Shared Inputs of Selected Source Are Blocked: One or more shared inputs exist and the destination has been protected by blocking every source using any of the shared inputs.

Block Conflict Exists: All Shared Inputs of Selected Source Are Not Blocked: One or more shared inputs exist and the destination may not be adequately protected. At least one source using a restricted input has not been blocked from the destination.

To add a destination:

1. Click the **Add** button in the DESTINATION window to open the DESTINATION CONFIGURATION window (Figure 34).
2. Create the destination name by selecting a **Category** and an optional **Index** from the **Edit Name** drop boxes. If no index is selected, the default “00” (which is not displayed) will be used.
3. Use the **Move** and **Remove** buttons to build the **Selected Levels** list using levels associated with the first **Output Number** to be used.

4. Select the first **Output Number** (logical output, not physical output).

NOTE: Selecting **Output Number** "0" for any level will result in that level being omitted from the destination being configured.

5. Tab out of the **Output Number** list box or click on another field to update the **Destination Definition** list box.
6. Repeat steps 4 through 6 for all **Output Numbers** being used.
7. Select the **Block** radio button to enable the source block section. Use the **Move** and **Remove** buttons to build the **Blocked Sources** list.
8. Verify that all information shown in the **Destination Definition** box is correct and then click the **OK** button to close the DESTINATION CONFIGURATION window.

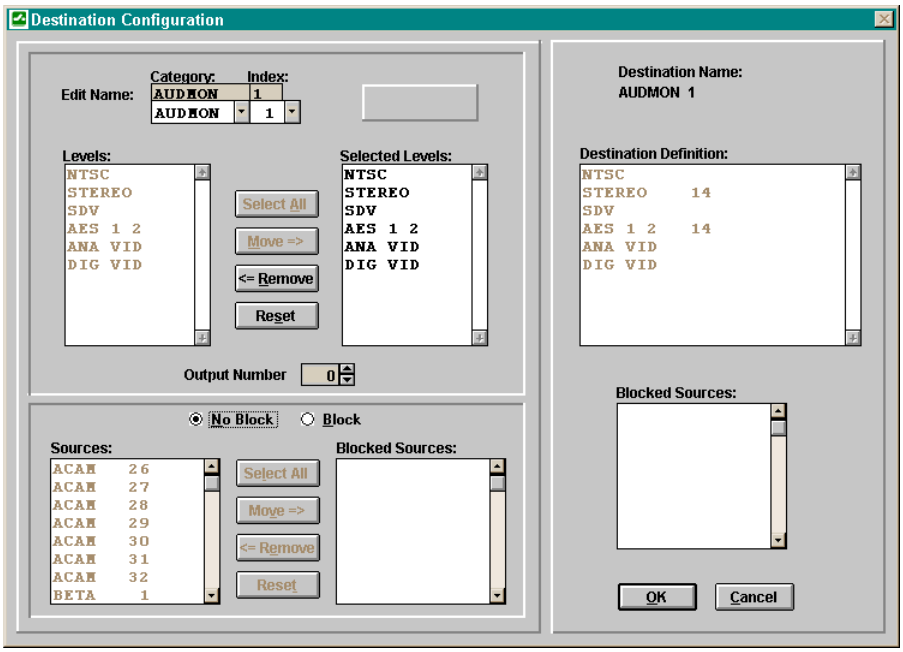


Figure 34 Destination Configuration Window

To modify an existing destination, select the destination to be changed and click on the **Edit** button. This will open the DESTINATION CONFIGURATION window (Figure 34) where any desired changes may be made.

To create a destination based on an existing one, select the existing destination and click on the **Copy** button. This will open the DESTINATION CONFIGURATION window (Figure 34). When this window opens, select a new destination name, and change the displayed destination information as required.

Deleting Destinations

Choosing to delete a destination on a fully configured system may have a significant impact on all items with which the destination is associated. Under these circumstances, selecting **Delete** will open the DESTINATION DELETE window (Figure 35) which displays all of the potentially impacted items. If there are no impacted items, such as is the case with a new configuration, the CONFIRM DELETE window will be displayed instead.

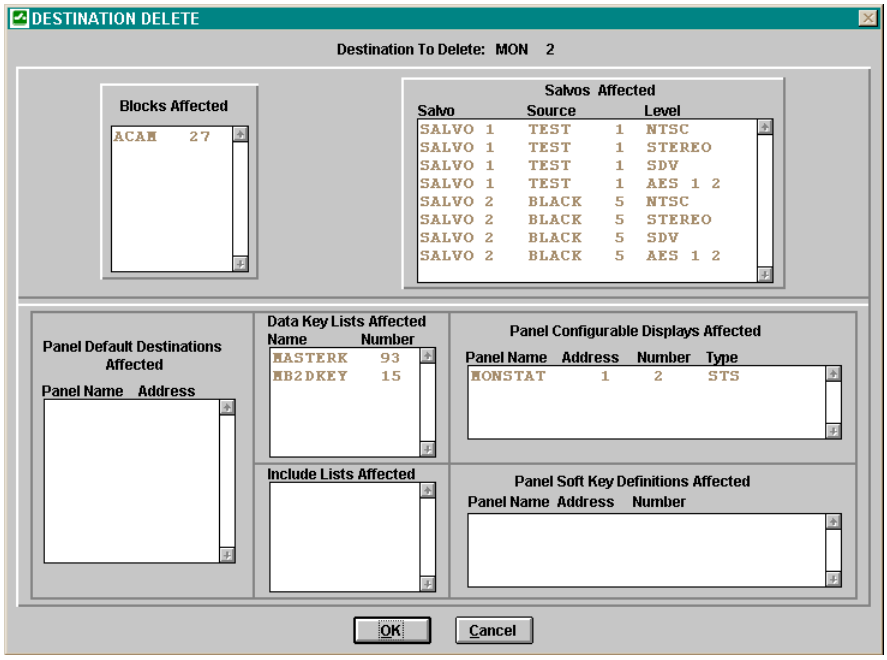


Figure 35 Destination Delete Window

The DESTINATION DELETE window displays all items that may be affected by the deletion of a destination. Deleting a destination results in the following:

1. The removal of any blocks affected by the destination
2. The deletion of any salvo entries that contain the destination
3. The blanking out of the default destination of any control panels using the destination as their default
4. The deletion of entries in any Data Key Lists or Include Lists that use the destination
5. Any panels with configurable displays (i.e. RCP-STAT panels) containing the destination will have the display blanked out
6. Any panels with soft keys defined as the destination will have the soft key definition deleted

Reentry

Open the **Configuration** menu and select **Reentry** to display the REENTRY window (Figure 36). This will allow you to add, edit, and delete reentries. The maximum number of reentries allowed is shown in Table 1 on page 1.

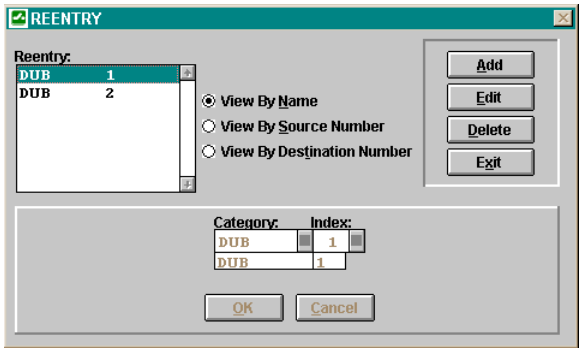


Figure 36 Reentry Window

NOTE: If you are using CPU Link Protocol 1, you may wish to enable **View By Source Number** or **View By Destination Number** to display source or destination numbers. These numbers will be shown on the left side of the **Reentry** list box.

A reentry is an entity which exists as both a source and destination at the same time, whose function is to facilitate switching a single source to multiple destinations, with a single logical switch.

Example (see Figure 37): Assume there exists source SRC1 and destinations DST1, DST2, and DST3. Reentry REENT1 is created and switched to the three destinations. With a single logical switch, SRC1 can now be switched to REENT1 and the signal will arrive at all three destinations at the same time.

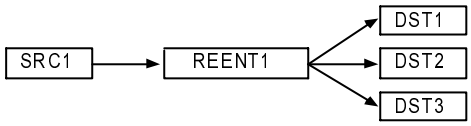


Figure 37 A Typical Reentry

To add a reentry:

1. Click the **Add** button.
2. Create the reentry name by selecting a **Category** and an optional **Index** from the drop boxes. If no index is selected, the default “00” (which is not displayed) will be used.
3. Click the **OK** button.

NOTE: Since a reentry serves as both a source and a destination, its name can not duplicate that of any existing source or destination.

Deleting Reentries

Choosing to delete a reentry on a fully configured system may have a significant impact on all items with which the reentry is associated. Under these circumstances, selecting **Delete** will open the REENTRY DELETE window (Figure 38) which displays all of the potentially impacted items. If there are no impacted items, such as is the case with a new configuration, the CONFIRM DELETE window will be displayed instead.

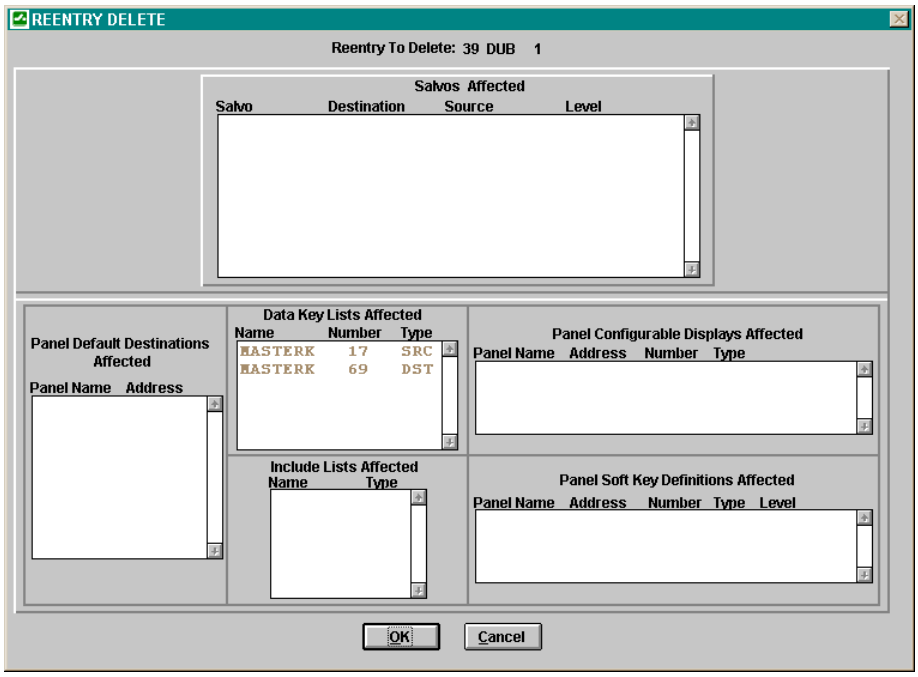


Figure 38 Reentry Delete Window

The REENTRY DELETE window displays all items that may be affected by the deletion of a reentry. Deleting a reentry results in the following:

1. The deletion of any salvo entries that the reentry
2. The blanking out of the default destination of any control panels using the reentry as their default
3. The deletion of entries in any Data Key Lists or Include Lists that use the reentry as a source or destination
4. Any panels with configurable displays (i.e. RCP-STAT panels) containing the reentry will have the display blanked out
5. Any panels with soft keys defined as the reentry as a source or destination will have the soft key definition deleted

Sync Reference

Open the **Configuration** menu and select **Sync Reference** to display the SYNC REFERENCE window (Figure 39). This will allow you to add, edit, and delete sync references.

NOTE: An RM5 device may only have one sync reference. A PRC device may have a maximum of two sync references.

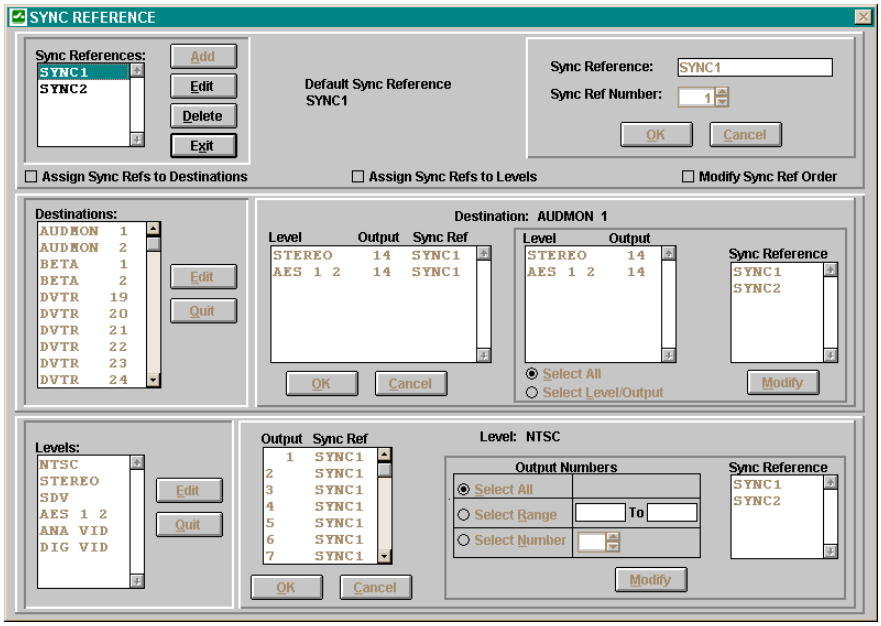


Figure 39 Sync Reference Window

Sync Reference is a reference signal used to ensure that switching occurs in the vertical interval of a video signal.

To add a sync reference:

1. Click the **Add** button.
2. Enter the **Sync Reference** name. Sync Reference names are one to eight characters in length and are constructed using uppercase letters, numbers, and spaces. The first character must be a letter.
3. Select the **Sync Ref Number**. This will be “2” because the default sync reference is “1”.
3. Click the **OK** button.
4. Click the Exit button to close the SYNC REFERENCE window.

Assign Sync References to Destinations

To assign a sync reference to a destination:

1. Select the **Assign Sync Refs to Destinations** check box.
2. Select the destination from the **Destinations** list box.
3. Click the **Edit** button.
4. Select the level(s) to be affected:

   a) To assign the sync reference to all levels, select the **Select All** radio button

   b) To assign the sync reference to a specific level, select the **Select Level/Output** radio button and then select the **Level**.
5. Select the **Sync Reference**.
6. Click the **Modify** button.

7. Repeat steps 4 through 6 until all levels have been changed.
8. Click the **OK** button.
9. Click the **Quit** button.
10. Click the **Exit** button to close the SYNC REFERENCE window.

Assign Sync References to Levels

To assign a sync reference to a level:

1. Select the **Assign Sync Refs to Levels** check box.
2. Select the level from the **Level** list box.
3. Click the **Edit** button.
4. Select the output number(s) on this level to be affected:

   a) To assign the sync reference to all outputs, select the **Select All** radio button

   b) To assign the sync reference to a range of outputs, select the **Select Range** radio button and then fill in the range boxes.

   c) To assign the sync reference to a specific output, select the **Select Number** radio button and then select the output number.
5. Select the **Sync Reference**.
6. Click the **Modify** button.
7. Repeat steps 4 through 6 until all outputs have been changed.
8. Click the **OK** button.
9. Click the **Quit** button.
10. Click the **Exit** button to close the SYNC REFERENCE window.

Modify Sync Reference Order

The default sync reference is the one which is designated sync reference number 1. Modifying the sync reference order has the effect of swapping the sync reference numbers for the two sync references. If only one sync reference exists, this option will not be available.

To modify the sync reference order:

1. Select the **Modify Sync Ref Order** check box.
2. Click the **Exit** button to close the SYNC REFERENCE window.

Salvo

Open the **Configuration** menu and select **Salvo** to display the SALVO window (Figure 40). This will allow you to add, edit, and delete salvos. The maximum number of reentries allowed is shown in Table 1 on page 1.

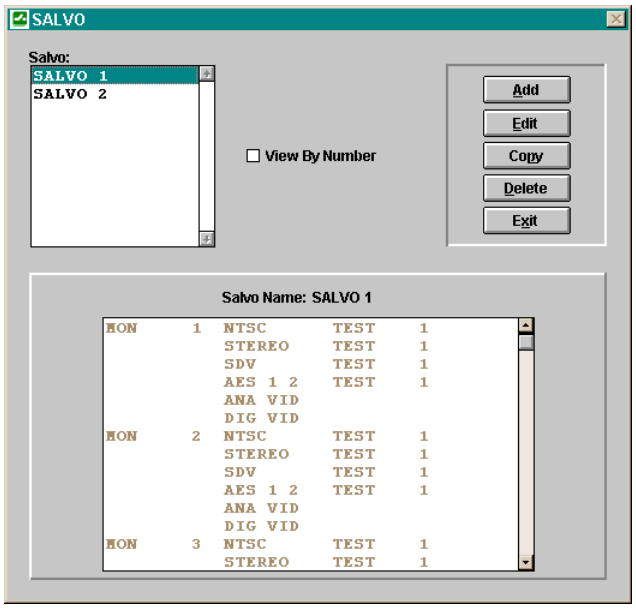


Figure 40 Salvo Window

NOTE: If you are using CPU Link Protocol 1, you may wish to enable **View By Number** to display salvo numbers. These numbers will be shown on the left side of the **Salvo** list box.

A salvo is a group of predefined logical switches taken at the same time. All switches in a salvo are taken within the same vertical interval.

To add a salvo:

1. Click the **Add** button in the SALVO window to open the SALVO CONFIGURATION window (Figure 41).
2. Enter the salvo name in the **Salvo Name** box. Salvo names are one to eight characters in length and are constructed using uppercase letters, numbers, and spaces. The first character must be a letter.
3. Click the **Add** button.
4. Select the **Destination**.
5. Select the **Levels**.
6. Select the **Source**.
7. Click the **Modify** button.
8. Repeat steps 3 through 7 for each salvo entry.
9. Click the OK button to close the SALVO CONFIGURATION window.

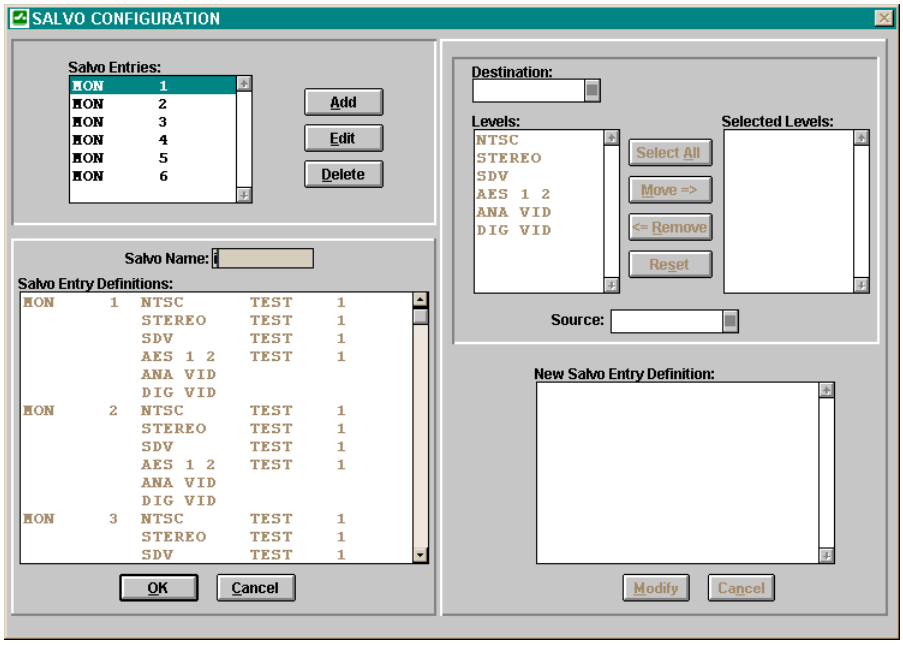


Figure 41 Salvo Configuration Window

To modify an existing salvo, select the salvo to be changed and click on the **Edit** button. This will open the SALVO CONFIGURATION window (Figure 41) where any desired changes may be made.

To create a salvo based on an existing one, select the existing salvo and click on the **Copy** button. This will open the SALVO CONFIGURATION window (Figure 41). When this window opens, select a new salvo name, and change the displayed salvo information as required.

Deleting a Salvo

Choosing to delete a salvo on a fully configured system may have a significant impact on all items with which the salvo is associated. Under these circumstances, selecting **Delete** will open the SALVO DELETE window (Figure 42) which displays all of the potentially impacted items. If there are no impacted items, such as is the case with a new configuration, the CONFIRM DELETE window will be displayed instead.

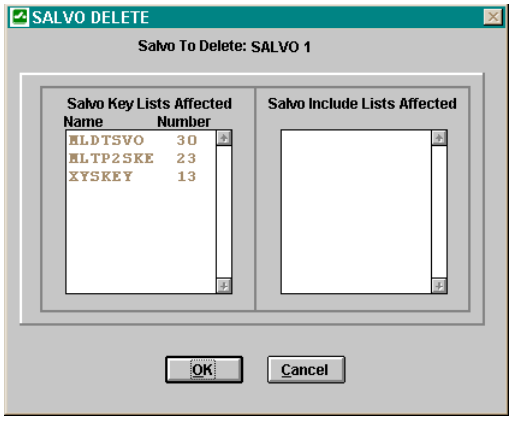


Figure 42 Salvo Delete Window

The SALVO DELETE window displays all items that may be affected by the deletion of a salvo. Deleting a salvo results in the following:

1. The deletion of the entries in any Salvo Key Lists that use the selected salvo
2. The deletion of any entries in Salvo Include Lists that use the selected salvo

Panel

Open the **Configuration** menu and select **Panel** to display the PANEL window (Figure 43). This will allow you to add, edit, and delete control panels. The maximum number of control panels allowed is shown in Table 1 on page 1.

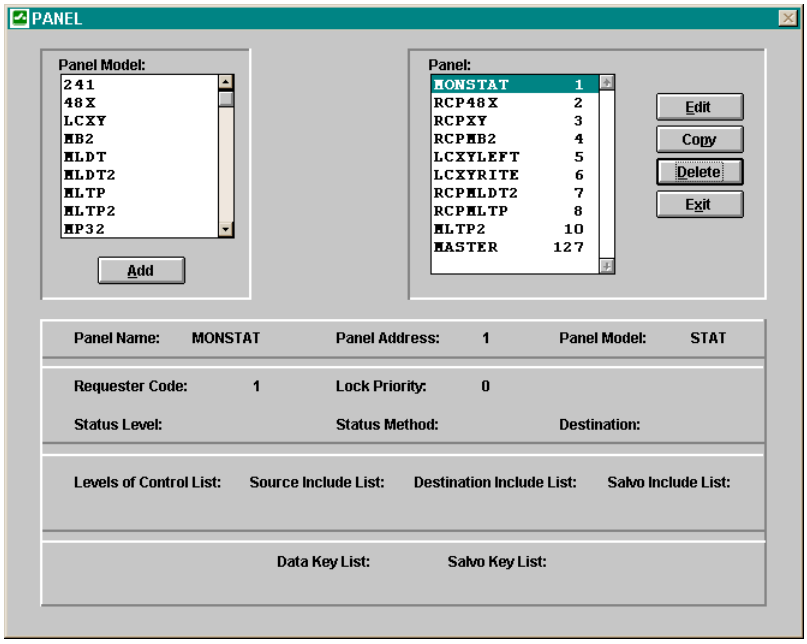


Figure 43 Panel Window

To add a panel:

1. Select the **Panel Model** to be added.
2. Click the **Add** button in the PANEL window to open the PANEL CONFIGURATION window (Figure 44). Each PESA control panel has a custom PANEL CONFIGURATION window. Only those configurable items applicable to the chosen panel will be displayed in the window. For a panel-by-panel breakdown of configurable items, see the Control Panel Configurable Items list (Table 2 on page 55). Each configurable item is explained in detail below.
3. Configure the panel.
4. Click the **OK** button to close the PANEL CONFIGURATION window.

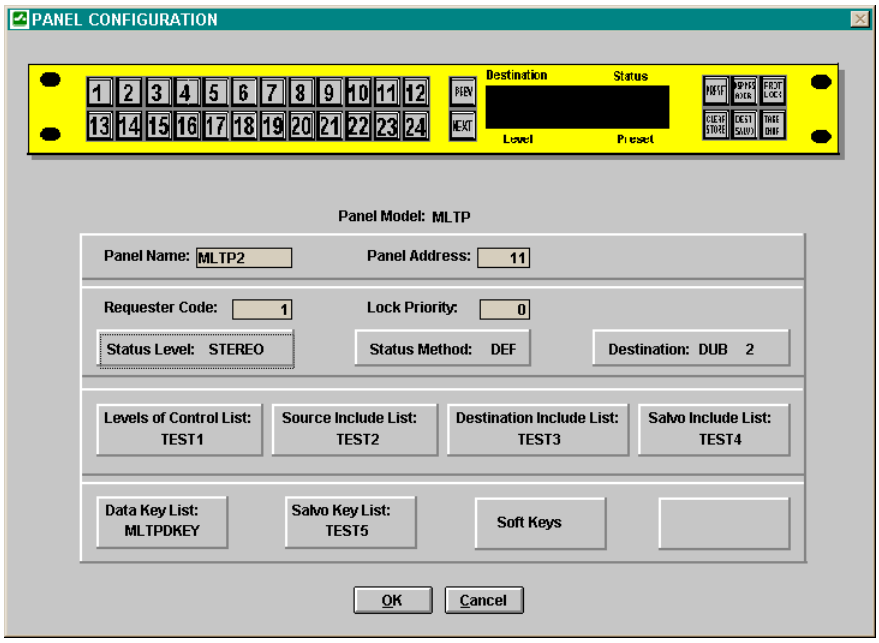


Figure 44 Panel Configuration Window (Typical)

Panel	Panel Name	Panel Address	Requestor Code	Lock Priority	Status Level	Status Method	Destination	Levels Of Control List	Source Include List	Destination Include List	Salvo Include List	Data Key List	Salvo Key List	Soft Keys	Displays
241	X	X	X	X	X	X	X	X				X			
48X	X	X	X	X	X	X	X	X				X			
LCXY	X	X	X	X	X	X	X	X	X	X					
MB2	X	X	X	X	X	X		X	X	X	X	X		X	
MLDT	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
MLDT2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
MLTP	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
MLTP2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
MP32	X	X	X	X	X	X	X	X				X			
STAT	X	X	X	X											X
TP	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
XY	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

Table 2 Control Panel Configurable Items

Panel Name

Because a panel is identified by its address, the assignment of a panel name is optional. If used, panel names are one to eight characters in length and are constructed using uppercase letters, numbers, and spaces. The first character must be a letter.

Panel Address

Every control panel has DIP switches on the back. These switches are used to set a unique address for each panel in a switching system. The acceptable range of addresses is shown in Table 1 on page 1.

Requester Code

The requester code is used with the lock priority to determine if a lock or protect can be removed. When a lock or protect has been assigned by a panel (or serial communications port), it can only be removed by another panel (or port) with a higher lock priority or with the same lock priority and same requester code.

Requester codes not explicitly defined automatically default to the panel address. The acceptable range of requester codes is shown in Table 1 on page 1.

Lock Priority

The lock priority is used with the requester code to determine if a lock or protect can be removed. When a lock or protect has been assigned by a panel or port, it can only be removed by another panel or port with a higher lock priority, or with the same lock priority and same requester code. The lower the lock priority number, the higher the priority.

Panel lock priorities not explicitly defined automatically default to "0" which gives absolute authority to clear any lock or protect on the system. The acceptable range of lock priorities is shown in Table 1 on page 1.

Status Level

Click the **Status Level** button to open the STATUS LEVEL window (Figure 45).

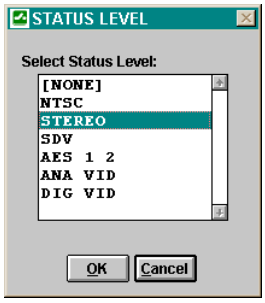


Figure 45 Status Level Window

One function of the LCD display on a panel is to show which source is currently switched to a selected destination. This is known as destination status. Although more than one source can be switched to a single destination (limited to one source per level), the status display can only show one source at a time. When the panel is in all levels mode (ALL LEVS), Status Level is used to designate a default level to be used when displaying status. Only the source on this default level will be displayed.

Status Method

Click the **Status Method** button to open the STATUS METHOD window (Figure 46).

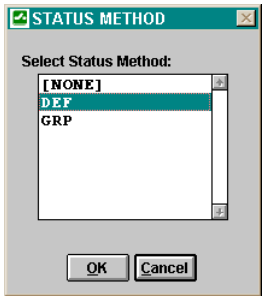


Figure 46 Status Method Window

When a panel is in all levels mode (ALL LEVS), the status shown will be the source on the Status Level assigned to that panel. If the destination is not defined on the Status Level, **Status Method** is used to control the resulting display:

If **DEF** (Default Method) is selected, NO XXXXX will be displayed where XXXXX is the Status Level assigned to the panel.

If **GRP** (Group Method) is selected, the controller will examine every level sequentially, starting with the level designated as Level Order 1. The source switched on the first level found where the destination is defined, will be displayed as the destination status.

Destination

Click the **Destination** button to open the DEFAULT DESTINATION window (Figure 47).

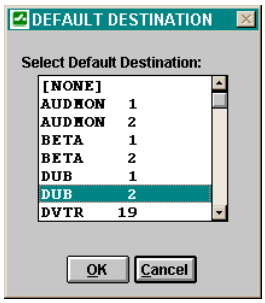


Figure 47 Default Destination Window

Select the default destination for which status will be displayed when power is applied to a panel, or when a new configuration is downloaded to the controller. Although not mandatory, it is recommended that a default destination be selected.

The panel will have control over the destination selected here, even if it is not included in the associated destination include list.

Levels of Control List

Click the **Levels Of Control List** button to open the LEVELS OF CONTROL LIST window (Figure 48).

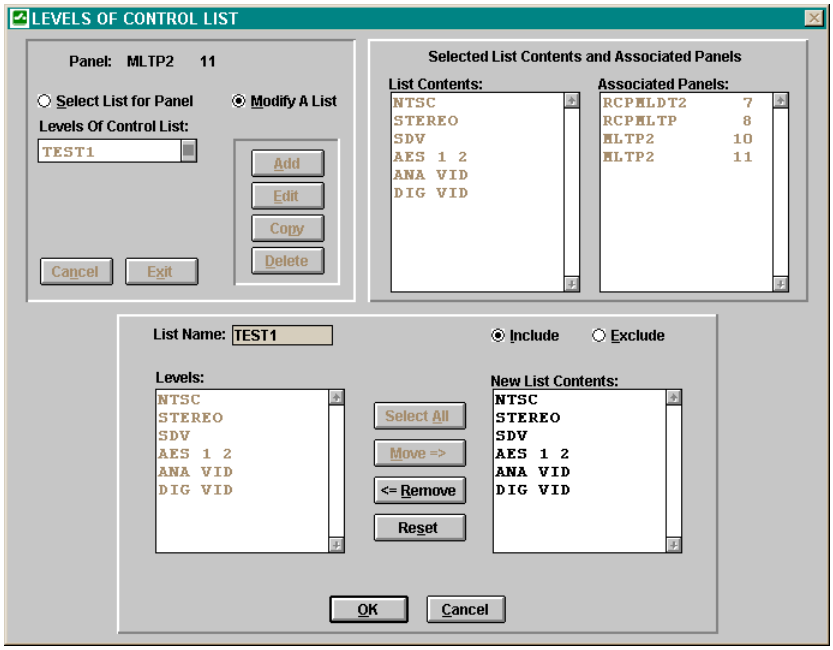


Figure 48 Levels of Control List Window

The Levels of Control List is a named list of all levels the panel is authorized to control. Two special lists come pre-configured: ALL and [NONE]. To configure a panel to have control over only some of the levels in a system, a named list must be created as follows:

1. Click the **Modify A List** radio button.
2. Click the **Add** button.
3. Enter a **List Name**. Levels of Control List names are one to eight characters in length and are constructed using uppercase letters, numbers, and spaces. The first character must be a letter.
4. Click either the **Include** or **Exclude** radio button. **Include** will cause the list to be made of all levels shown in the **New List Contents** list box. **Exclude** will cause the list to be made of all levels *except* those shown in the **New List Contents** list box.
5. Use the **Move** and **Remove** buttons to create a list of levels in the **New List Contents** list box.
6. Click the **OK** button.
7. Click the **Select List for Panel** radio button.
8. Select the new list from the **Levels Of Control List** drop box.
9. Click the **Exit** button.

The LEVELS OF CONTROL LIST window also shows all panels using level of control lists created for this type of panel, including **ALL** and **[NONE]**.

NOTE: A panel using the **[NONE]** levels of control list cannot be used to take switches.

Source Include List

Click the **Source Include List** button to open the SOURCE INCLUDE LIST window.

A source include list is a named list of the sources a specific control panel is authorized to control. A source include list may be shared by multiple panels.

The Source Include List is a named list of all sources the panel is authorized to control. It functions the same as the LEVELS OF CONTROL LIST window (Figure 48).

Destination Include List

Click the **Destination Include List** button to open the DESTINATION INCLUDE LIST window.

A destination include list is a named list of the destinations a specific control panel is authorized to control. A destination include list may be shared by multiple panels. The default destination assigned to a panel may be controlled even if it is not on the destination include list.

The Destination Include List is a named list of all destinations the panel is authorized to control. It functions the same as the LEVELS OF CONTROL LIST window (Figure 48).

Salvo Include List

Click the **Salvo Include List** button to open the SALVO INCLUDE LIST window.

A salvo include list is a named list of the salvos a specific control panel is authorized to control. A salvo include list may be shared by multiple panels.

The Salvo Include List is a named list of all salvos the panel is authorized to control. It functions the same as the LEVELS OF CONTROL LIST window (Figure 48).

Data Key List

Click the **Data Key List** button to open the DATA KEY LIST window (Figure 49).

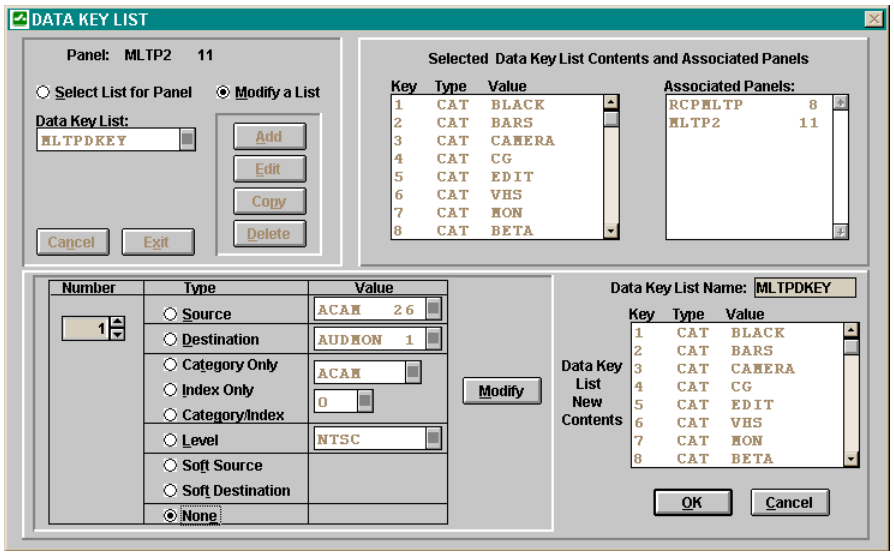


Figure 49 Data Key List Window

A data key is a user configurable control panel key, whose assigned function is used when the panel is in any mode except Salvo Select Mode.

A data key list is a named list of the functions assigned to each data key on a panel. A data key list may be shared by multiple panels as long as they are the same type of panel. Different panel types may not use the same data key list.

A Data Key List is created as follows:

1. Click the **Modify a List** radio button.
2. Click the **Add** button.
3. Enter a **Data Key List Name**. Data Key List names are one to eight characters in length and are constructed using uppercase letters, numbers, and spaces. The first character must be a letter.
4. Select the key **Number**, **Type** and **Value**.
5. Click the **Modify** button to transfer this information to the **Data Key List New Contents** list box.
6. Repeat steps 4 and 5 until all desired keys have been defined.
7. Click the **OK** button.
8. Click the **Select List for Panel** radio button.
9. Select the new list from the **Data Key List** drop box.
10. Click the **Exit** button.

The DATA KEY LIST window also shows all panels using data key lists created for this type of panel.

Salvo Key List

Click the **Salvo Key List** button to open the SALVO KEY LIST window (Figure 50).

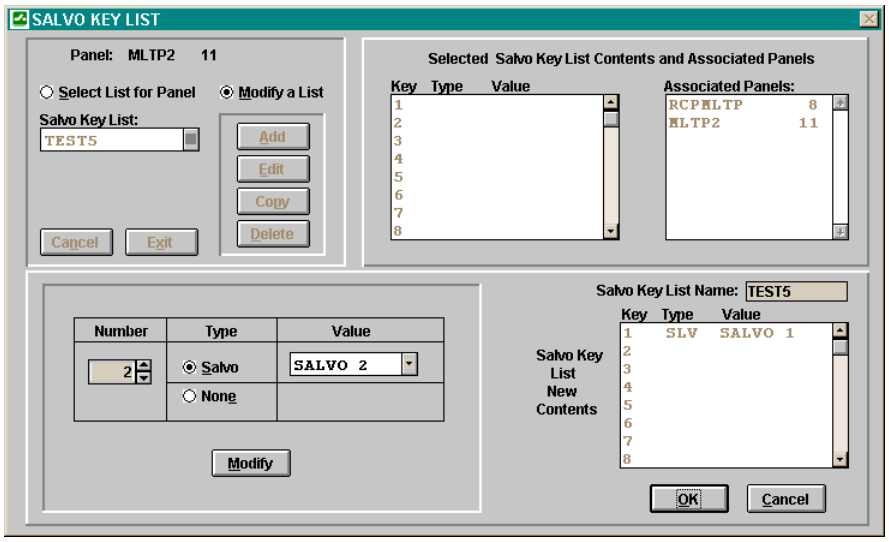


Figure 50 Salvo Key List

NOTE: A Salvo Key List can not be created until at least one salvo has been configured.

A salvo key is a user configurable control panel key, whose assigned function is used when the panel is in salvo select mode.

A salvo key list is a named list of the functions assigned to each salvo key on a panel. A salvo key list may be shared by multiple panels as long as they are the same type of panel. Different panel types may not use the same salvo key list.

A Salvo Key List is created as follows:

1. Click the **Modify a List** radio button.
2. Click the **Add** button.
3. Enter a **Salvo Key List Name**. Salvo Key List names are one to eight characters in length and are constructed using uppercase letters, numbers, and spaces. The first character must be a letter.
4. Select the key **Number**, **Type** and **Value**.
5. Click the **Modify** button to transfer this information to the **Salvo Key List New Contents** list box.
6. Repeat steps 4 and 5 until all desired keys have been defined.
7. Click the **OK** button.
8. Click the **Select List for Panel** radio button.
9. Select the new list from the **Salvo Key List** drop box.
10. Click the **Exit** button.

The SALVO KEY LIST window also shows all panels using salvo key lists created for this type of panel.

Soft Keys

Click the **Soft Keys** button to open the SOFT KEY DEFINITION window (Figure 51).

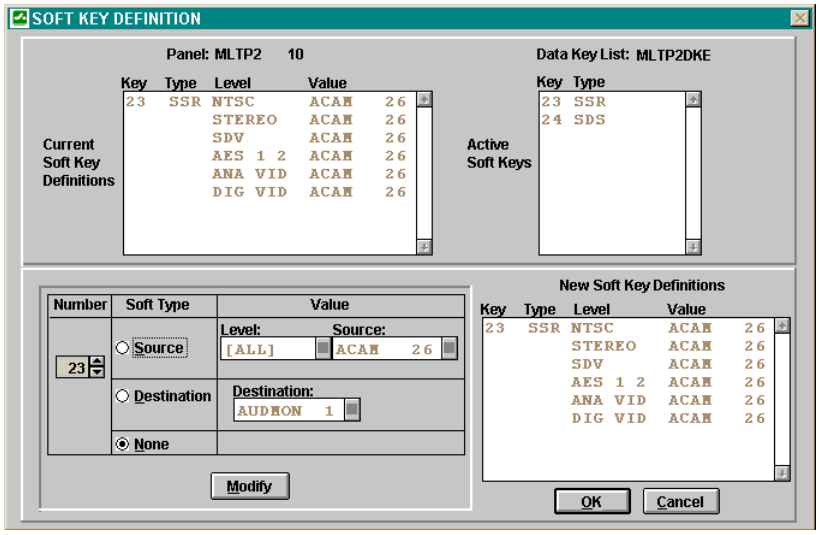


Figure 51 Soft Key Definition Window

NOTE: Soft Keys can not be configured until at least one soft key has been defined in the Data Key List assigned to the panel.

A Soft Key can be configured locally at the panel using Store Mode, or with Win3500Plus as follows:

1. Select the key **Number**, **Type** and **Value**.
2. Click the **Modify** button to transfer this information to the **New Soft Key Definitions** list box.
3. Repeat steps 1 and 2 until all desired keys have been defined.
4. Click the **OK** button.

View Keys

To display the VIEW KEYS window (Figure 52), click on the panel image at the top of the PANEL CONFIGURATION window.

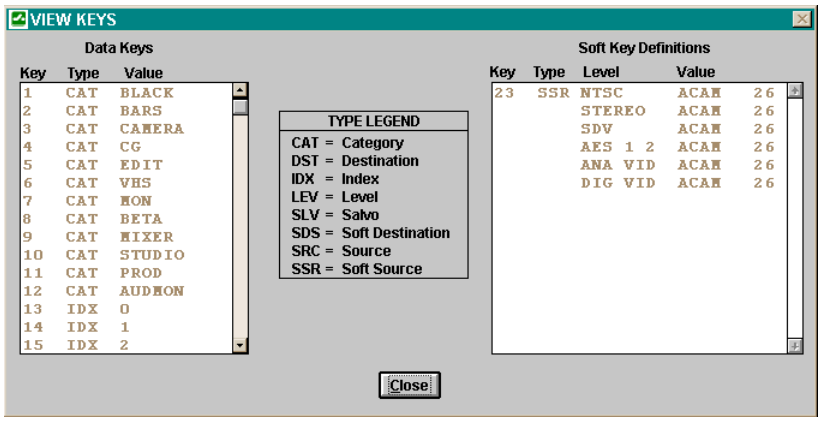


Figure 52 View Keys Window

The VIEW KEYS window contains a summary listing of all user configured data, salvo and soft keys.

Status Display Panels

A special type of control panel is the RCP-STAT status display panel which contains one or two user-configurable LED displays. When configuring one of these panels, the RCP-STAT PANEL CONFIGURATION window (Figure 53) will be displayed.

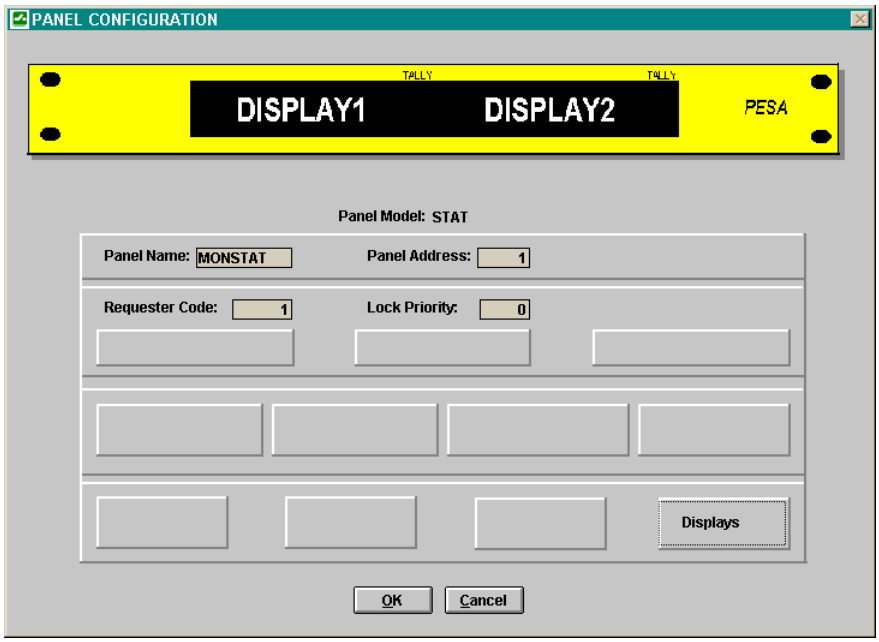


Figure 53 RCP-STAT Panel Configuration Window

For the RCP-STAT panel, **Panel Name**, **Panel Address**, **Requester Code**, and **Lock Priority** are configured in the same manner as any other panel. Click the **Displays** button to open the PANEL DISPLAY window (Figure 54).

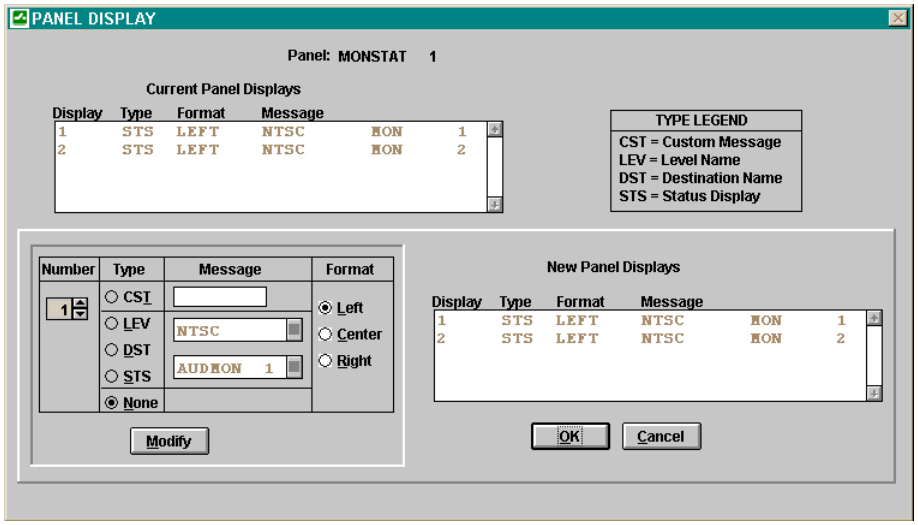


Figure 54 Panel Display Window

Configure the status display as follows:

1. Select the display **Number**, **Type**, **Message** and **Format**.
2. Click the **Modify** button to transfer this information to the **New Panel Displays** list box.
3. Repeat steps 1 and 2 if configuring a second display.
4. Click the **OK** button.

View Displays

To display the VIEW DISPLAYS window (Figure 55), click on the panel image at the top of the RCP-STAT PANEL CONFIGURATION window.

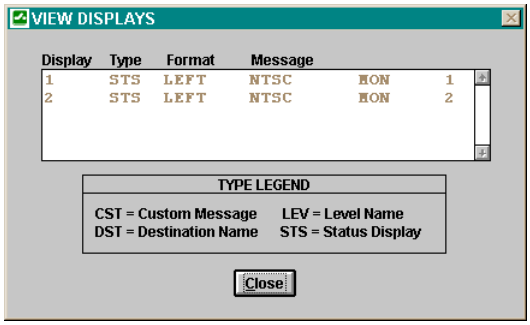


Figure 55 View Displays Window

The VIEW DISPLAYS window contains a summary listing of all user-configured displays on the selected panel.

CPU Link

Open the **Configuration** menu and select **CPU Link** to display the CPU LINK CONFIGURATION window (Figure 56).

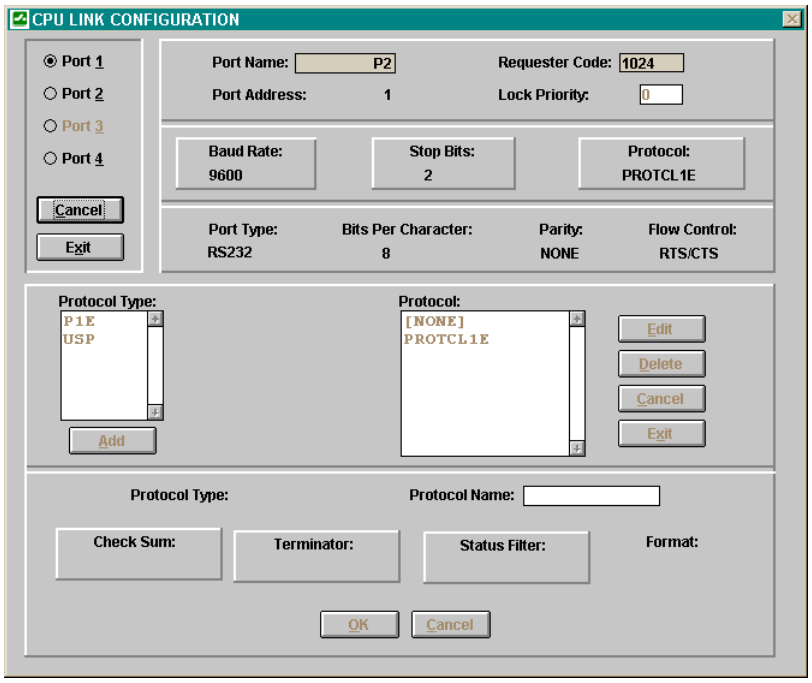


Figure 56 CPU Link Configuration Window

The CPU LINK CONFIGURATION window allows the user to configure the serial ports on the 3500Plus System Controller as follows:

Port Selection

Select the port to be configured for use with Win3500Plus:

Port 1 - The default CPU link port which is pre-configured to be used with Win3500Plus. The only items which may be changed on this port are the **Port Name** and the **Requester Code**.

Port 2 - Available for user configuration.

Port 3 - Not available. This port is the PRC Communications Port on the 3500Plus System Controller and may not be used for external control.

Port 4 - Available for user configuration.

Port Name

Because a port is identified by its address, the assignment of a port name is optional. If used, port names are one to eight characters in length and are constructed using uppercase letters, numbers, and spaces. The first character must be a letter.

Requester Code

The requester code is used with the lock priority to determine if a lock or protect can be removed. When a lock or protect has been assigned by a port (or panel), it can only be removed by another port (or panel) with a higher lock priority or with the same lock priority and same requester code.

Requester codes not explicitly defined automatically default to 1024, 1025, and 1027 for Ports 1, 2, and 4 respectively.

The acceptable range of requester codes is shown in Table 1 on page 1.

Lock Priority

The lock priority is used with the requester code to determine if a lock or protect can be removed. When a lock or protect has been assigned by a port or panel, it can only be removed by another port or panel with a higher lock priority, or with the same lock priority and same requester code. The lower the lock priority number, the higher the priority.

Port lock priorities not explicitly defined automatically default to “0” which gives absolute authority to clear any lock or protect on the system. The Lock Priority assigned to Port 1, which may not be changed, is “0”.

The acceptable range of lock priorities is shown in Table 1 on page 1.

Baud Rate

Click the **Baud Rate** button to open the BAUD RATE window (Figure 57).

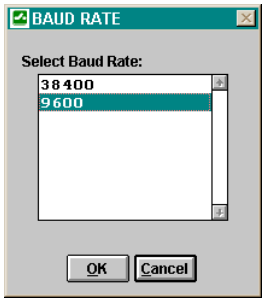


Figure 57 Baud Rate Window

Baud rate is the data transfer rate through the serial port measured in Baud (bits per second).

A baud rate of either 9600 or 38400 may be selected for Port 2 and Port 4. The Baud Rate assigned to Port 1, which may not be changed, is 9600.

Stop Bits

Click the **Stop Bits** button to open the STOP BITS window (Figure 58).

In asynchronous communications, a stop bit is a bit that indicates that a byte of data has just been transmitted. Every byte of data is preceded by a start bit and followed by a stop bit.

Either 1 or 2 stop bits may be selected for Port 2 and Port 4. The number of stop bits assigned to Port 1, which may not be changed, is 2.

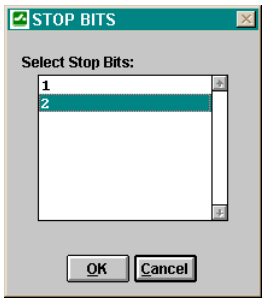


Figure 58 Stop Bits Window

Protocol

The protocol selected determines the format to be used when sending data through the serial ports on the 3500Plus System Controller. There are currently three protocols available for use:

1. CPU Link Protocol 1 with Extensions (P1E) (81-9062-0407-0)
2. Unsolicited Status Protocol (USP) (81-9062-0409-0)
3. Truck Link Protocol (TRK) (81-9062-0410-0) This protocol is designed to allow communication between two independent controllers. It provides an arbitration scheme that allows one controller to operate in a passive mode while the other controller is used to control all routing switchers and control panels. Full operation of Truck Link requires installation of the Truck Link hardware interface units.

These standard PESA protocols may be user customized if required by the interfacing hardware.

Port 1 is pre-configured to use only the protocol named PROTCL1E which is the unmodified version of P1E.

Port 2 may be configured to use either P1E or USP, in either unmodified or customized versions. TRK may not be used on Port 2.

Port 4 may be configured to use any of the available protocols, in either unmodified or customized versions.

A protocol is modified (if required) and assigned to a port as follows:

1. Select the port to be configured by clicking on the appropriate **Port** radio button.
2. Click the **Protocol** button.
3. Select the **Protocol Type**.
4. Click the **Add** button.
5. Enter the **Protocol Name**. Protocol names are one to eight characters in length and are constructed using uppercase letters, numbers, and spaces. The first character must be a letter.
6. Click the **Check Sum** button to open the CHECKSUM TYPE window (Figure 59).

   A checksum determines how the validity of transmitted data will be confirmed. The three checksum types available are:

   a) NONE: No validity checking.

b) PESA: Data validity is checked using PESA's standard method.

c) HEX ASCII: Data validity is checked using a standard HEX-ASCII checksum.

7. Click the **Terminator** button to open the TERMINATOR window (Figure 60).

   The terminator is the character(s) to be used to denote the end of a data packet or command string. The three terminators available are:

   a) CR: A carriage return.

   b) LF: A line feed.

   c) CL: A carriage return followed by a line feed.

8. Click the **Status Filter** button to open the STATUS FILTER window (Figure 61). This is only available for Unsolicited Status Protocol (USP).

   Status filtering allows the user to filter the data sent through the port using USP. The nine filters available are:

   A - All Unsolicited Items

   C - Configuration Changes

   D - Dual Transition Changes (Dual 3500Plus Control Systems Only)

   E - Confidence Errors

   G - User Logon/Log Off

   L - Lock/Protect Changes

   P - Physical Switches

   S - Switch Change Requests

   U - User Account Changes

9. Click the **OK** button.
10. Click the **Exit** button.

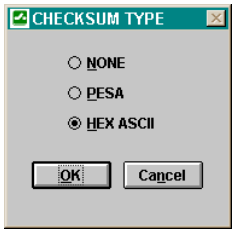


Figure 59 Checksum Type Window

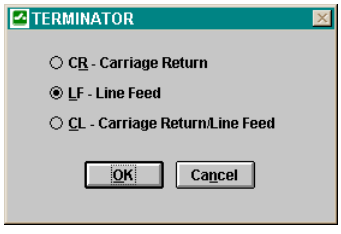


Figure 60 Terminator Window

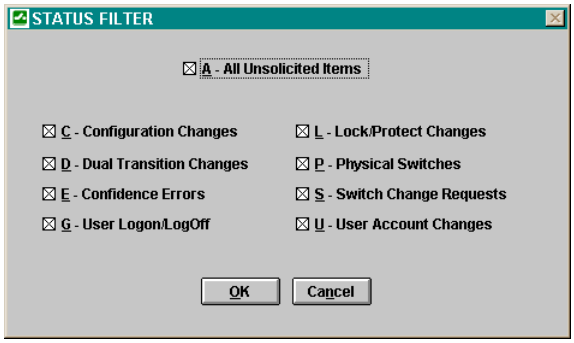


Figure 61 Status Filter Window

Chapter 8 – Diagnostics Menu

Introduction

The **Diagnostics** menu provides access to diagnostic and hardware reset operations.

NOTE: Prior to performing any diagnostic or reset function that affects the configuration or operation of the 3500Plus System Controller, you must be logged on to the controller and have the appropriate privileges assigned to your user account (if user accounts are used). For more information, see "Log On to Controller" on page 17 and "Create A User Account" on page 10.

Physical Diagnostics

Open the **Diagnostics** menu and select **Physical Diagnostics** to display the CONFIDENCE AND READBACK STATUS window (Figure 62).

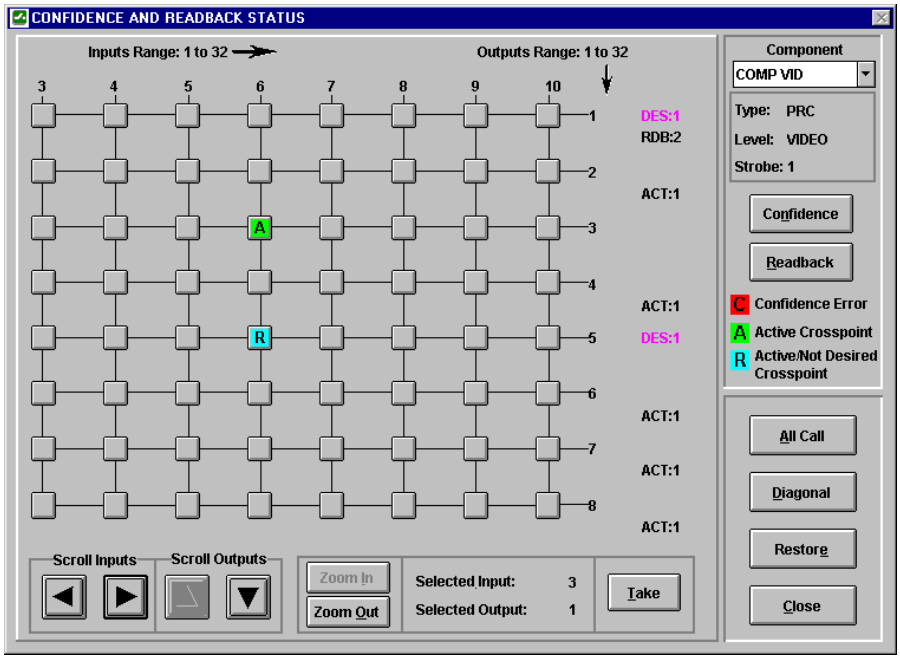


Figure 62 Confidence and Readback Status Window

The left side of this window is a map of the physical inputs and physical outputs of the selected component. Each small square represents one physical switch. Use the **Zoom** and **Scroll** controls to navigate around this map. You may also click on a physical switch and then select a **Zoom** button. The map will then automatically scroll to place the selected switch in the upper left corner and zoom in or out at the same time.

The selected physical switch will move to the upper left corner of the map and the inputs and outputs displayed are to the next smaller/larger resolution.

Click on the **Confidence** button to display the results of the most recent block check. Physical switches in blocks having a confidence error will be marked with a "C" and highlighted in red.

Click on the **Readback** button to display which physical switches are currently active as reported by the routing switcher. Active switches will be reported in one of two ways:

1. Physical switches which are reported active by the routing switcher, and are expected to be active by the configuration currently loaded in the 3500Plus System Controller, will be marked with an "A" and highlighted in Green.

   If the map has been scrolled until the switch is no longer visible, the input will be indicated on the right side of the map by ACT:xx where xx is the input number.

2. Physical switches which are reported active by the routing switcher, but are expected to be inactive by the configuration currently loaded in the 3500Plus System Controller, will be marked with an "R" and highlighted in Blue.

   On the right side of the switch map, the input desired by the controller will be indicated by DES:xx where xx is the desired input number.

   If the map has been scrolled until the switch is no longer visible, the input reported by the routing switcher will be indicated on the right side of the map (under the DES:xx indicator) by RDB:xx where xx is the input number being read back by the routing switcher.

All Call

Click on the **All Call** button to open the ALL CALL window (Figure 63).

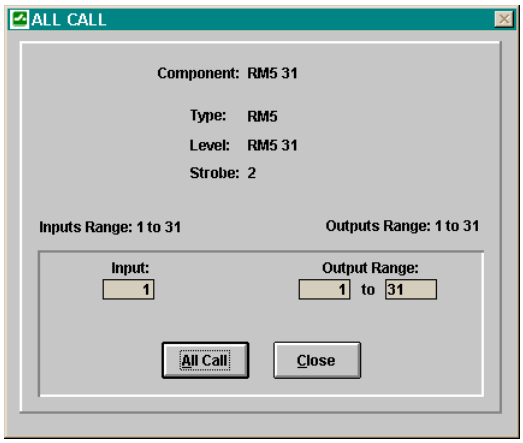


Figure 63 All Call Window

An all call is a diagnostic procedure that causes a single physical input to be switched to a range of physical outputs, for a specified component, with a single command.

Example (see Figure 64): Assume that there exists a component RED which spans physical inputs 1 through 8 and physical outputs 1 through 8 on a routing switcher. All call could be used to switch physical input 3 to physical outputs 4 through 8 with a single command.

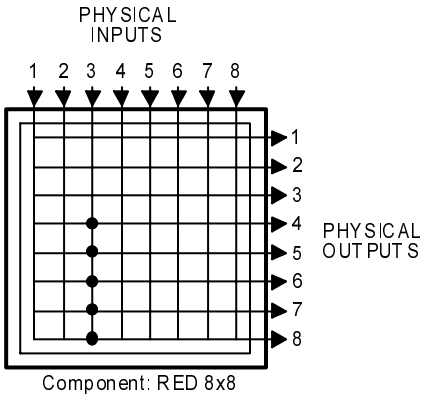


Figure 64 All Call

To perform an All Call on the selected component:

1. Enter the **Input** number.
2. Enter the **Output Range**.
3. Click the **All Call** button.

Diagonal

Click on the **Diagonal** button to open the DIAGONAL window (Figure 65).

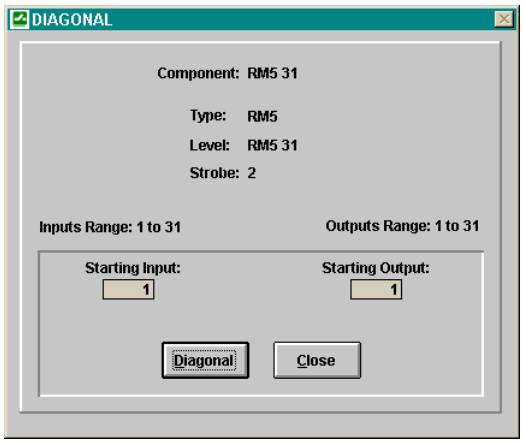


Figure 65 Diagonal Window

A diagonal is a diagnostic procedure that causes a range of physical inputs to be switched to a range of physical outputs, in a diagonal pattern starting from a specified coordinate and continuing until the either the inputs or outputs are exhausted, for a specified component, with a single command.

Example (see Figure 66): Assume that there exists a component RED which spans physical inputs 1 through 8 and physical outputs 1 through 8 on a routing switcher. A diagonal with a starting input of 4 and a starting output of 1 would cause the following physical switches to be taken: (4,1), (5,2), (6,3), (7,4), and (8,5).

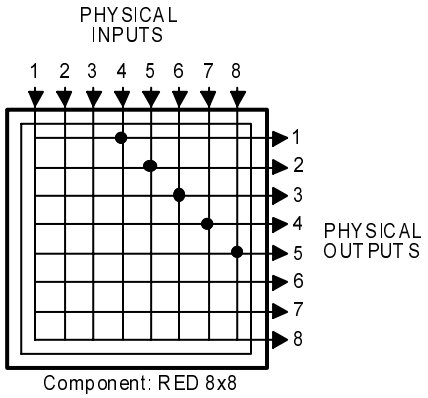


Figure 66 Diagonal

To perform a Diagonal on the selected component:

1. Enter the **Starting Input** number.
2. Enter the **Starting Output** number.
3. Click the **Diagonal** button.

Take

To switch a specific physical switch, click on the switch in the map, and then click the **Take** button.

Restore

To restore the routing switcher to its original state before any All Call, Diagonal, or Take commands were issued, click the **Restore** button.

NOTE: Unallocated outputs in the selected component will not be switched back to their original input.

Router Physical Mapping

Open the **Diagnostics** menu and select **Router Physical Mapping** to display the GROUP TO PHYSICAL MAPPING window (Figure 67).

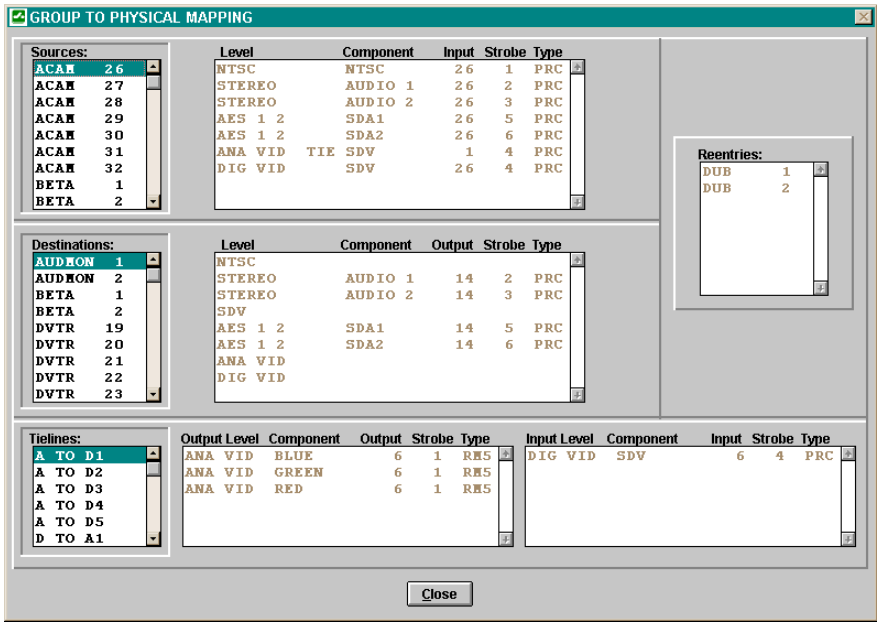


Figure 67 Group to Physical Mapping Window

The Group to Physical Mapping Window provides the user with a list of physical connections needed to make the system configuration functional.

CPU Link Test

To verify that the serial link between your PC and the 3500Plus System Controller is functioning correctly, open the **Diagnostics** menu and select **CPU Link Test** (this will test both cable and modem connections).

NOTE: When running Win3500Plus under Windows v3.1, the cursor will not change from an arrow to an hourglass. Allow this test to run for at least 30 seconds before assuming there is a problem.

Once the test is complete, one of two messages will be displayed:

Pass: Interfacing to PESA Controller 3500Plus Version: Vx.x

Fail: No response From CPU Link Device!:KUQ

For troubleshooting information, see "**"No response From CPU Link Device!:KUQ**" on page 80.

Clear Configuration Locks

In the rare event that a power failure, hardware malfunction, or other occurrence prevents a configuration upload or download from terminating in a normal manner, the configuration lock may latch in place. To manually clear a configuration lock, open the **Diagnostics** menu and select **Clear Configuration Locks**.

If the malfunction occurred while downloading a configuration to the controller (sometimes referred to as writer's lock), the controller will also be reset.

Block Check Enable/Disable

When troubleshooting system problems, it may occasionally be useful to turn block checking off. To do so, open the **Diagnostics** menu and select **Block Check Enable/Disable**. This will cause the current state to be reported and allow it to be toggled if desired.

Switcher Enable/Disable

When troubleshooting system problems, it may occasionally be useful to disable all routing switchers in the system. To do so, open the **Diagnostics** menu and select **Switcher Enable/Disable**. This will cause the current state to be reported and allow it to be toggled if desired.

Reset Controller

To reset the 3500Plus System Controller, open the **Diagnostics** menu and select **Reset Controller**.

Reset Panel

Open the **Diagnostics** menu and select **Reset Panel** to display the PANEL RESET window (Figure 68).

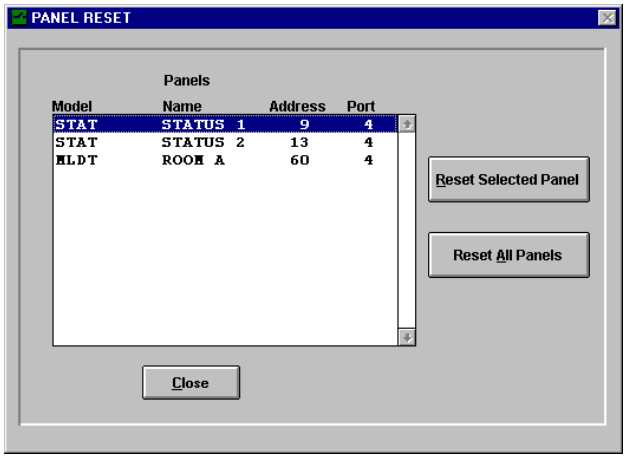


Figure 68 Panel Reset Window

All panels which are currently on-line may be reset individually, or together as a group. See “Panel Status” on page 25 for more information.

Import/Export Functions

A configuration may exist in two different formats:

1. A DBF configuration is a configuration stored as a .dbf style database. This is the format that Win3500Plus uses when storing a configuration on the PC.

2. An ASCII configuration is a configuration stored as an ASCII text file. Win3500Plus converts a configuration from DBF to ASCII when it is when uploaded from or downloaded to a 3500Plus System Controller.

The following four diagnostic functions are provided for advanced troubleshooting purposes when working with ASCII configurations. To access them, open the **Diagnostics** menu, select **Import/Export Functions**, and then the appropriate function.

1. **Export ASCII File to Controller**. This function is used to transfer an ASCII configuration from the PC to the 3500Plus System Controller.
2. **Import ASCII File to PC**. This function is used to import an ASCII configuration from the PC into Win3500Plus.
3. **Database Convert to ASCII File**. This function is used to export an ASCII configuration from Win3500Plus to the PC.
4. **Controller Config to ASCII File**. This function is used to transfer an ASCII configuration from the 3500Plus System Controller to the PC.

Chapter 9 – Troubleshooting

Introduction

This chapter provides basic troubleshooting information to help solve any problems encountered with Win3500Plus.

If the solution cannot be found here, please contact the PESA Customer Service Department at (256) 726-9222 or service@pesa.com, or visit the PESA web site at http://www.pesa.com.

Error Messages

Listed below are error messages and possible solutions for the problems they identify.

Component Offset Warning

"The Number of Level Inputs/Outputs + the Component Offset is Greater Than The Offset Defined for Component Type of the Following Components. CONTINUE?"

You have attempted to edit a level to increase the number of inputs or outputs beyond the maximum allowed.

A level may not be edited to increase the number of inputs or outputs such that the new number plus the component offset of any components associated with the edited level is greater than the maximum component offset for that component type (RM5 device v. PRC device). The offending components will be listed along with the error message.

Configuration Error

"A Level Must Exist Before a Component May Be Defined"

After you have configured at least one Level, you will be able to access this menu.

Configuration Warning

"Discrepancies exist between Configuration on Controller and Currently loaded Configuration on Win3500Plus: Configuration Contents Are Not The Same. Continue?"

This warning is given when the configuration in the PC differs from the configuration in the 3500Plus System Controller.

Controller Interface Authority

"You do not have the necessary privileges to access the controller. Access to controller denied."

One of the following has occurred:

1. You have attempted to log on to the 3500Plus System Controller with a password protected User Name and have entered the wrong password. If you are unable to enter the correct password, a user with password change privileges can provide you with a new password (see "User Account" on page 18).
2. You have attempted to perform an action that you are not authorized to perform. Check your User Account privileges (see "User Account" on page 18) and revise if necessary.

NOTE: If you have forgotten your system passwords, contact the PESA Customer Service Department at (256) 726-9222 or service@pesa.com.

CPU Link Message

"Error in Opening COM Port x (Invalid port specified)"

You have tried to select a serial port (COM Port x) on your PC which either does not exist or is connected to something other than the 3500Plus System Controller.

"No response From CPU Link Device!:KUQ"

The PC is not communicating with the 3500Plus Controller; check the following:

1. Verify that the 3500Plus System Controller Power On LED (green) and the Active LED (yellow) are on (in a system with dual controllers installed, only one controller will have the Active LED on). If these LEDs are not on, refer to the 3500Plus System Controller manual for troubleshooting information.
2. Verify that the serial cable is connected to the correct connector on both ends (see the 3500Plus System Controller manual for connection information).
3. Verify that the communication speed selected in Win3500Plus matches the speed selected by the DIP switch on the 3500Plus System Controller. The DIP switch is used to select a baud rate of either 9600 or 38400.

Database Conversion Error

"Invalid System Version For Conversion"

You have tried to use the Configuration Conversion Utility to update a configuration that has already been updated.

Duplicate Output Error

"The Outputs on the following Levels are assigned to other Destinations:"

While configuring a destination, you have attempted to use a logical output that is already in use by another destination. Shared outputs are not permitted.

Invalid Save Directory

"Configuration cannot be saved to Working Directory. Please choose another directory."

The Working Directory is the directory where Win3500Plus was installed. If you used the default settings of the installation program, this will be c:\win3500 in 16-bit versions of Windows and c:\program files\win3500 in 32-bit versions of Windows.

You may not save a Configuration to the Working Directory or any subdirectory of the Working Directory.

Panel Status Level Change Requirement

"A new Panel Status Level must be selected for the listed panels. Otherwise the panels will not transfer to the Controller."

The designation of a status level is a mandatory requirement for certain panel types. You have attempted to delete a level which is designated as the status level for one or more panels in the switching system. Before you will be allowed to delete the level, you must designate another level as the new status level for the affected panels.

Remote Modem Configuration

"Remote Modem Configuration Failed. Exit anyway?"

You have failed to transmit the modem initialization string to the Remote Modem because of one of the following reasons:

1. The Remote Modem is either not connected to your PC or is connected to the wrong Serial Port.
2. The Remote Modem is not plugged in or turned on.

Sync Ref Status Message

"Only the default sync ref, SYNC1, is defined. Sync Ref Status Screen will not be displayed."

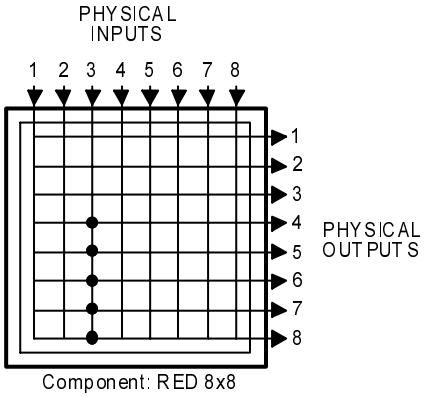
Before the SYNC REFERENCE STATUS window can be displayed, additional Sync References must be configured. See “Sync Reference” on page 49.

Glossary of Terms

All Call

A diagnostic procedure that causes a single physical input to be switched to a range of physical outputs, for a specified component, with a single command.

Example: Assume that there exists a component RED which spans physical inputs 1 through 8 and physical outputs 1 through 8 on a routing switcher. All call could be used to switch physical input 3 to physical outputs 4 through 8 with a single command.



See also: Diagonal.

Baud

The number of signaling elements that occur each second.

At slow speeds, only one bit of information (signaling element) is encoded in each electrical change. The baud, therefore, indicates the number of bits per second that are transmitted. For example, 300 baud means that 300 bits are transmitted each second (abbreviated 300 bps).

Assuming asynchronous communication, which requires 10 bits per character, this translates to 30 characters per second (cps). For slow rates (below 1,200 baud), you can divide the baud by 10 to see how many characters per second are sent.

At higher speeds, it is possible to encode more than one bit in each electrical change. 4,800 baud may allow 9,600 bits to be sent each second. At high data transfer speeds, therefore, data transmission rates are usually expressed in bits per second (bps) rather than baud. For example, a 9,600 bps modem may operate at only 2,400 baud

Block

A group of contiguous crosspoints in a routing switcher which form the smallest unit on which confidence is checked.

Because of the nature of the circuits involved, individual crosspoints cannot be checked to see if they are operating correctly. Instead, the control circuitry shared by groups of crosspoints is monitored. These groups of crosspoints, called blocks, vary in size according to product type. Block size for RM5 routing switchers is 8 inputs by 2 outputs and block size for PRC routing switchers is 8 inputs by 8 outputs. If any block gives a confidence error, all crosspoints in that block are assumed to be non-functional

Block Checking

The continuous, sequential monitoring of confidence for each block in a routing switcher.

Block checking occurs automatically and continuously but can be disabled for troubleshooting purposes.

Blocked Destination

See: Source Block.

Blocked Source

See: Source Block.

Breakaway Switch

A switch where more than one source is switched to a single destination on multiple levels.

Example: Assume there exists two sources VTR1 and VTR2 which are defined on levels VIDEO and AUDIO, and a destination MON1 which is defined on the same levels. VTR1 is switched to MON1 on the VIDEO level and VTR2 is switched to MON1 on the AUDIO level. The signal reaching MON1 will have the video from VTR1 and the audio from VTR2, and is a breakaway switch.

See also: Follow Switch

Category

The first portion of a source, destination, or reentry name.

Categories provide an easy means of classifying and grouping switching system devices.

An example of a category is VTR which could be used with the indices 1, 2, and 3 to create the source names VTR 1, VTR 2, and VTR 3.

Category names are one to six characters in length and are constructed using uppercase letters and numbers. The first character must be a letter. Imbedded spaces are not permitted.

Checksum

A count of the number of bits in a transmission unit that is included with the unit so that the receiver can check to see whether the same number of bits arrived. If the counts match, it's assumed that the complete transmission was received.

Chop

Rapidly switch two different video signals into a monitor or other piece of test equipment. This is done to compare some characteristic of the signals, usually for quality control.

Chop Rate

The parameter used to control the switching rate when chopping two signals. The signal switching rate is determined as follows:

$$\frac{\text{Video Frame Rate (Frames/Second)}}{\text{Chop Rate}} = \text{Signal Switching Rate (Switches/Second)}$$

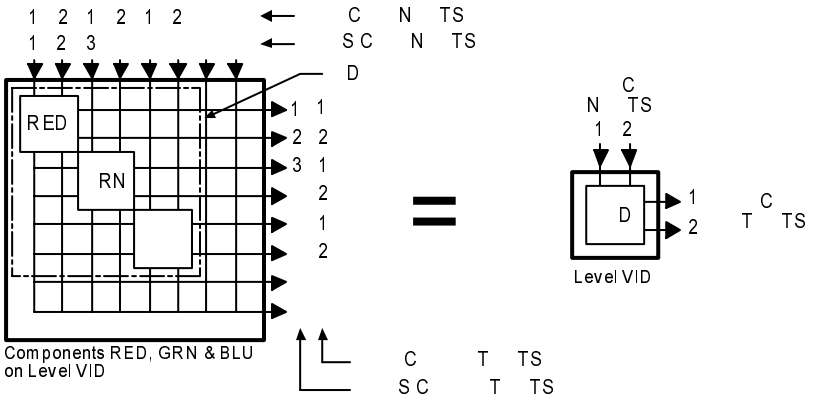
For example, a chop rate of 1 used with NTSC signals (30 Frames/Second) will cause the signals to be switched 30 times per second. A chop rate of 60 used with the same signals will cause them to be switched every two seconds.

Component

The most basic signal element which can be switched by a single crosspoint. For example, in RGB video, "Red", "Green", and "Blue" are components; in stereo audio, "Left" and "Right" are components

In Matrix Space, components of like type ("Red" or "Left") are usually grouped together into rectangular matrices of crosspoints having contiguous inputs and outputs. These matrices are also referred to as components and are grouped together into levels.

The example below shows a 2x2 RGB video level made up of three components, "RED", "GRN", and "BLU".



As a general rule, users control the switching of levels, but component switching is handled automatically by the switching system. In the example above, a user could specify a single logical switch, such as VID Input 1 to VID Output 2. This would result in Win3500Plus taking three physical switches by activating crosspoints (1,2), (3,4) and (5,6).

Component names are one to eight characters in length and are constructed using uppercase letters, numbers, and spaces. The first character must be a letter.

Confidence

A property of a block, that indicates whether or not the circuitry controlling the crosspoints in the block, is functioning correctly.

When block checking determines that a block is not functioning correctly, the block, and all crosspoints contained in it, are said to have confidence errors.

Confidence has no relation to whether or not any crosspoint in the block is active.

Confidence Error

See Confidence.

Configuration

A collection of system definitions that define the environment in which the controller operates.

The files which comprise a configuration are stored on a PC as either .dbf format files or text files. Each configuration requires its own separate subdirectory.

Configuration names may have up to 32 alphanumeric characters.

Configuration Lock

A security measure enabled when a configuration is being uploaded or downloaded.

A configuration lock is used to ensure that only one user at a time may download a configuration to the controller.

Although rare, conditions may arise that prevent a configuration lock from clearing itself automatically. To do so manually, see “Clear Configuration Locks” on page 75.

Control Panel

See: Panel.

CPU Link

A bi-directional, communications interface on the 3500Plus System Controller.

A CPU link has two components: a serial port on the controller, and a communications protocol to govern how the port is used. One CPU link is used to connect the controller to the PC running Win3500Plus. The other CPU links may be used to connect the controller to other equipment which needs to exert control over, or obtain status from, the routing switcher system.

Crosspoint

The circuitry and components on a printed circuit board which constitute a single physical switch.

See also: Physical Switch.

Data Key

A user configurable control panel key, whose assigned function is used when the panel is in any mode except Salvo Select Mode.

Many control panels have user configurable keys. Each key can be assigned two functions, one as a data key and one as a salvo key. When the keys are pressed, the data key functions are used except when the panel is in salvo mode.

Data Key List

A named list of the functions assigned to each data key on a panel.

A data key list may be shared by multiple panels as long as they are the same type of panel. Different panel types may not use the same data key list.

Data key list names are one to eight characters in length and are constructed using uppercase letters, numbers, and spaces. The first character must be a letter.

Default Destination

The destination for which status will be displayed when power is applied to a panel, or when a new configuration is downloaded to the controller.

Although not mandatory, it is recommended that a default destination be selected for each panel.

Destination

One or more logical outputs (limited to one per level), on one or more levels, which are switched together as a group.

Destination names are constructed using one category followed by 0, 1 or 2 indices. If no index is selected, the default “00” (which is not displayed) will be used.

Destination Block

See: Source Block.

Destination Group

See: Destination.

Destination Include List

A named list of the destinations a specific control panel is authorized to control.

A destination include list may be shared by multiple panels.

The default destination assigned to a panel may be controlled even if it is not on the destination include list.

Destination include list names are one to eight characters in length and are constructed using uppercase letters, numbers, and spaces. The first character must be a letter.

Destination Number

A number assigned to each destination by the controller and used by CPU Protocol 1.

Destination numbers are also assigned to reentries.

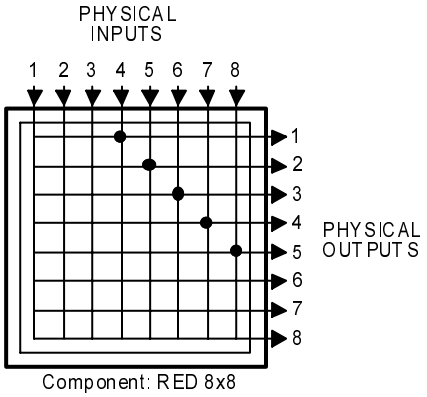
Destination Status

See: Status.

Diagonal

A diagnostic procedure that causes a range of physical inputs to be switched to a range of physical outputs, in a diagonal pattern starting from a specified coordinate and continuing until the either the inputs or outputs are exhausted, for a specified component, with a single command.

Example: Assume that there exists a component RED which spans physical inputs 1 through 8 and physical outputs 1 through 8 on a routing switcher. A diagonal with a starting input of 4 and a starting output of 1 would cause the following physical switches to be taken: (4,1), (5,2), (6,3), (7,4), and (8,5).



See also: All Call.

Follow Switch

A switch where a single source is switched to a single destination on all levels.

Example: Assume there exists a source VTR1 which is defined on levels VIDEO and AUDIO, and a destination MON1 which is defined on the same levels. VTR1 is switched to MON1 on both the VIDEO level and AUDIO level. The signal reaching MON1 will have the video and audio from the same source, VTR1. This is a follow switch.

This is the most common manner in which switches are taken on a routing switcher.

See also: Breakaway Switch

Index

The last portion of a source, destination, or reentry name.

Indices provide an easy means of differentiating similar switching system devices.

Each source, destination or reentry name may use 0, 1 or 2 indices. If no index is used, “00” is the default but is not displayed. An example of indices are 1, 2, and 3 which could be used with the category VTR to create the destination names VTR 1, VTR 2, VTR 3, VTR 12 and VTR 22.

Indices are one character in length and are constructed using uppercase letters and numbers. The character 0 (zero) is a default index which may not be changed or deleted.

Input Offset

In matrix space, the amount by which the origin of a component on strobe x, is offset from the origin of strobe x, measured along the input axis.

The coordinates of crosspoints in matrix space are determined by the strobe they reside on, and their input and output numbers. They are given in the form (input,output) on strobe x. The origin of a component (a matrix of crosspoints) is designated by the point which falls nearest the origin of its strobe (1,1). In Figure A below, the 3x4 component bounded by coordinates (3,2), (5,2), (5,5), and (3,5) has its origin at (3,2).

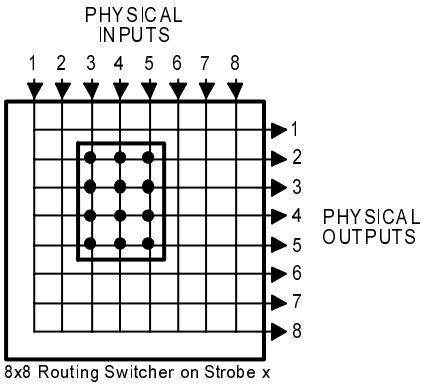


Figure A

Input offset is the amount by which the origin of a component is offset from the origin of its strobe, measured along the input axis. A component whose origin coincides with that of its strobe (1,1) will have an input offset of 0. The component shown in Figure A above, has an input offset of 2.

When multiple routing switchers are assigned to the same strobe, the input and output connectors are renumbered to provide a unique coordinate for each crosspoint. Crosspoint coordinates are then determined in the same manner as above. The component shown in Figure B below, has its origin at (12,7) and an input offset of 11.

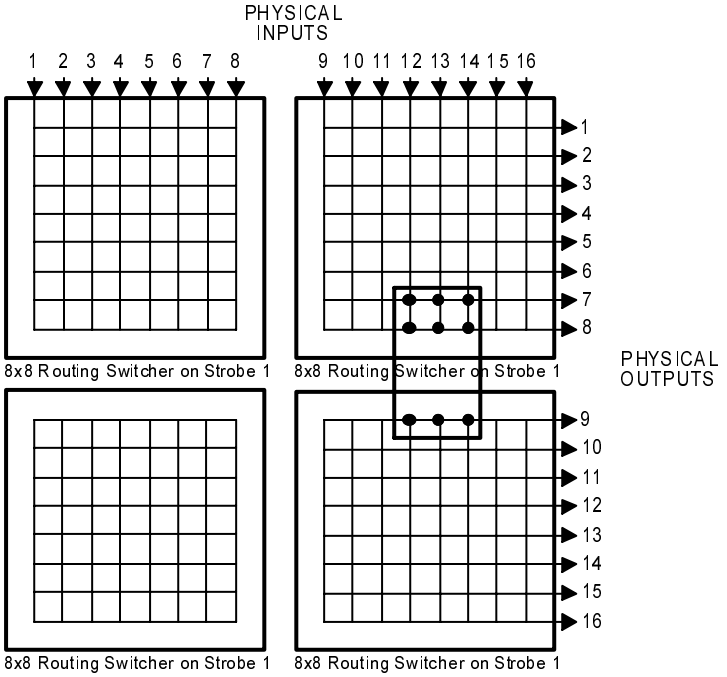


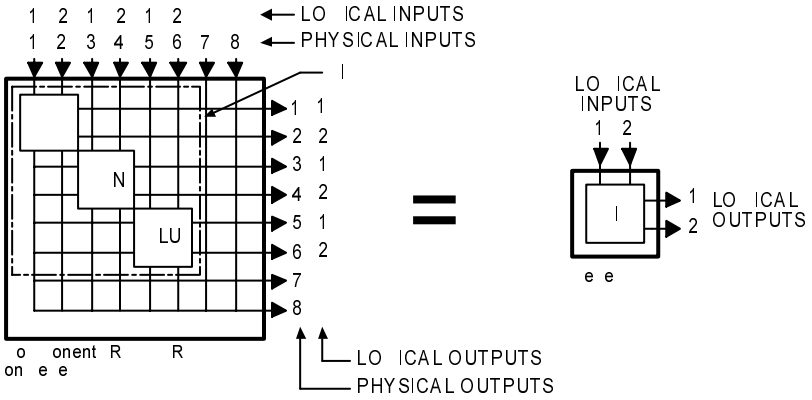
Figure B

Level

A group of related components that are switched together.

A level is sometimes referred to as a level of control and is the basic granularity seen by a user. The components which comprise a level will always be switched together except when performing diagnostic operations.

The example below shows a 2x2 RGB video level made up of three components, “RED”, “GRN”, and “BLU”, all of which are switched together at the same time.



As a general rule, users control the switching of levels, but component switching is handled automatically by the switching system. In the example above, a user could specify a single logical switch, such as VID Input 1 to VID Output 2. This would result in Win3500Plus taking three physical switches by activating crosspoints (1,2), (3,4) and (5,6).

Level names are one to eight characters in length and are constructed using uppercase letters, numbers, and spaces. The first character must be a letter.

Level Order

A property assigned to a level which controls the order of display when levels are displayed on a control panel or addressed in CPU link protocols.

Levels of Control List

A named list of the levels a specific control panel is authorized to control.

A levels of control list may be shared by multiple panels.

Levels of control list names are one to eight characters in length and are constructed using uppercase letters, numbers, and spaces. The first character must be a letter.

Local Modem

A modem connected to a PC running Win3500Plus.

See also: Remote Modem.

Lock

A property placed on a destination that prevents all users from taking a switch on the destination. Locks may be cleared by the requester that initiated the lock, a requester of a higher lock/protect priority, or a master requester.

See also: Protect.

Lock Priority

A property of panels and ports which allows them to be grouped with other panels or ports for the purpose of establishing lock and protect authority.

The lock priority is used with the requester code to determine if a lock or protect can be removed. When a lock or protect has been assigned by a panel or port, it can only be removed by another panel or port with a higher lock priority, or with the same lock priority and same requester code.

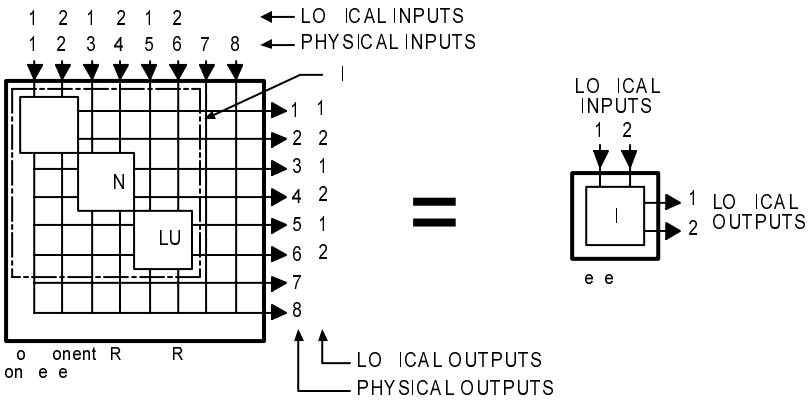
The lower the lock priority number, the higher the priority. Panel lock priorities not explicitly defined automatically default to “0” which gives absolute authority to clear any lock or protect on the system.

Logical Input

One or more physical inputs which are switched together as a group.

Logical inputs and outputs are switched level-by-level. Since each level may have more than one component, switching a single logical input or output may involve switching more than one physical input or output.

For example, a RGB input signal represents three physical inputs because it is connected to three input connectors on the routing switcher. However, since all three components (R, G, and B) are switched together as a level, it is a single logical input.



Logical inputs are numbered sequentially, level-by-level, beginning with 1. Input numbers are assigned in the same order as the physical inputs to the component(s) of the level. Since a routing switcher may be configured to have more than one level, it may have more than one logical input designated as number 1. However, within each level, every logical input will have a unique number. Logical outputs are numbered in the same manner. Logical input/output numbering is handled automatically by Win3500Plus as components are configured.

See also: Physical Input.

Logical Output

See: Logical Input.

Logical Switch

The Win3500Plus command that switches a logical input to a logical output.

See also: Physical Switch.

Matrix Breakup

The division of a single physical matrix into one or more components.

Matrix breakup allows complex signal types to reside within a single physical matrix. For example, a video matrix is often broken into R, G, and B components.

Matrix breakup is a software function handled by Win3500Plus.

Matrix Space

A three-dimensional mathematical model of the crosspoints in a switching system.

The coordinates of crosspoints in matrix space are given in the form (input,output) on strobe x.

When a switching system is physically made up of only one routing switcher, the crosspoint coordinates are the same as the input and output connector numbers, and the resulting matrix space has only two dimensions. For example, the coordinates of the crosspoint indicated in Figure A is (4,2) on strobe 1.

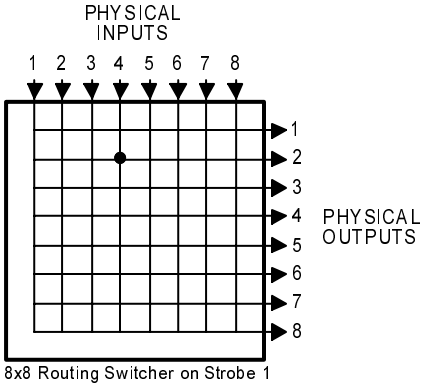


Figure A

Two-dimensional matrix space can also be composed of the crosspoints located in multiple routing switchers. The input and output connectors on the additional routing switchers are renumbered as required to ensure that each crosspoint can be identified by a unique (input,output) coordinate. When switching systems are constructed in this manner, matrix space size is no longer constrained by routing switcher size. The switching system shown in Figure B consists of three 8x8 routing switchers assigned to the same strobe. The coordinates of the indicated crosspoint are (12,14) on strobe 1.

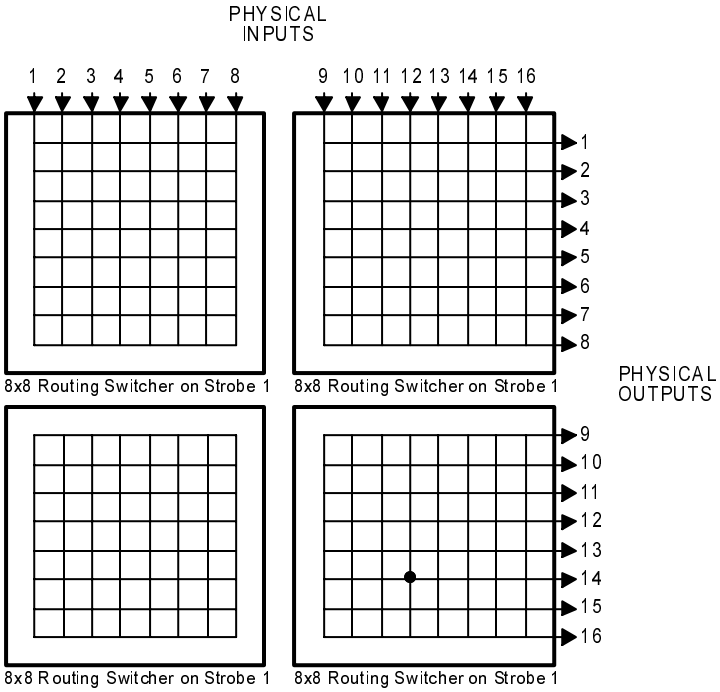


Figure B

Strobe numbers are used to introduce a third dimension into matrix space. Every routing switcher in a switching system is assigned to a strobe. In systems using more than one strobe (and, therefore having three-dimensional matrix space), crosspoint coordinates are given in the form (input,output) on strobe x. In Figure C, the coordinates of the indicated crosspoint in the left routing switcher are (4,2) on strobe 1. The coordinates of the crosspoint on the right are (4,2) on strobe 2.

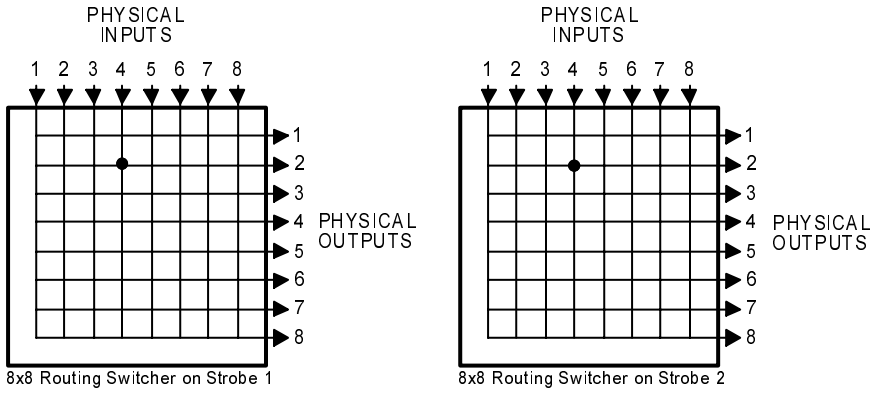


Figure C

Output Offset

In matrix space, the amount by which the origin of a component on strobe x, is offset from the origin of strobe x, measured along the output axis.

The coordinates of crosspoints in matrix space are determined by the strobe they reside on, and their input and output numbers. They are given in the form (input,output) on strobe x. The origin of a component (a matrix of crosspoints) is designated by the point which falls nearest the origin of its Strobe (1,1). In Figure A below, the 3x4 Component bounded by coordinates (3,2), (5,2), (5,5), and (3,5) has its origin at (3,2).

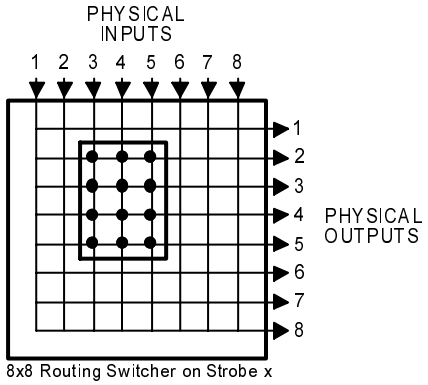


Figure A

Output offset is the amount by which the origin of a component is offset from the origin of its strobe, measured along the output axis. A component whose origin coincides with that of its strobe (1,1) will have an output offset of 0. The component shown in Figure A above, has an output offset of 1.

When multiple routing switchers are assigned to the same strobe, the input and output connectors are renumbered to provide a unique coordinate for each crosspoint. Crosspoint coordinates are then determined in the same manner as above. The component shown in Figure B below, has its origin at (12,7) and an output offset of 6.

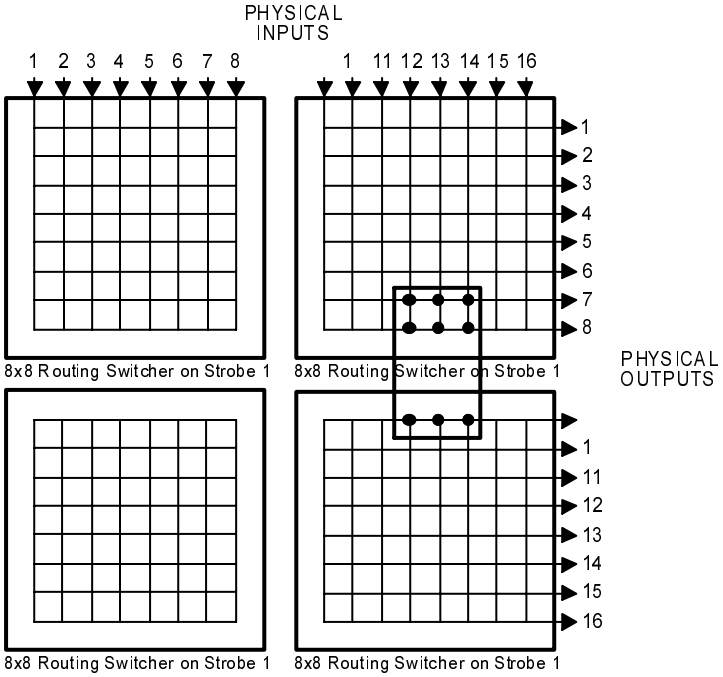


Figure B

Panel

A user interface, usually mounted in a standard 19” rack, containing alphanumeric displays, push-buttons, LEDs, etc. Sometimes referred to as a control panel.

A panel is used to control a switching system by taking switches, obtaining status, etc.

Panel names are one to eight characters in length and are constructed using uppercase letters, numbers, and spaces. The first character must be a letter.

Panel Address

A unique identifier, set by DIP switch on every panel, which allows the 3500Plus System Controller to differentiate between panels.

Panel Name

An optional identifier for a control panel.

Individual panels are identified by panel address. Because of this, a panel name is not required when configuring a panel.

Panel names are one to eight characters in length and are constructed using uppercase letters, numbers, and spaces. The first character must be a letter.

Password

Each User Account and Configuration may be protected with eight-character, upper case, alphanumeric passwords.

PC

The Personal Computer on which is running.

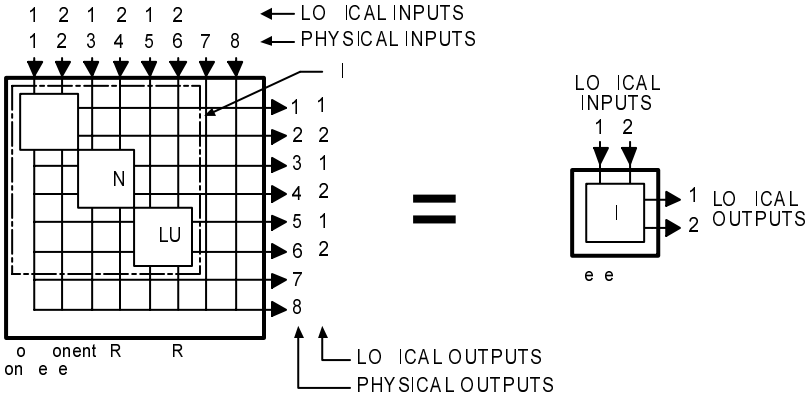
 is designed to operate on any IBM PC compatible personal computer running a Microsoft Windows™ operating system (3.1, 95, 98, or NT).

Physical Input

The electrical signal coming from a device connected to an input connector on a routing switcher.

Physical inputs and outputs are the electrical signals passing through the input and output connectors of a routing switcher. Each connector represents one input or output.

For example, a RGB input signal would represent three physical inputs since it would be connected to three input connectors on the routing switcher.



Physical inputs are numbered sequentially beginning with 1, and have the same number as the corresponding input connector on the routing switcher. This includes connectors which have been renumbered with input offset when multiple routing switchers have a common strobe. Physical outputs are numbered in the same manner.

See also: Logical Input.

Physical Switch

The hardware that switches a physical input to a physical output. Sometimes referred to as a crosspoint.

See also: Logical Switch and Crosspoint.

Physical Output

See: Physical Input.

Port

Any of the serial communications bus interface connectors on the 3500Plus System Controller.

Port names are one to eight characters in length and are constructed using uppercase letters, numbers, and spaces. The first character must be a letter. Port names are optional because a port is identified by its address.

PRC Device

A device designed to be compatible with the PESA Routing Control (PRC) protocol.

The Ocelot, Cougar, Jaguar, and Tiger routing switcher families are PRC devices.

See also: RM5 Device.

Protect

A property placed on a destination that prevents all users from taking a switch on the destination except for the requester that initiated the protect. Protects may be cleared by the requester that initiated the protect, a requester of a higher lock/protect priority, or a master requester.

See also: Lock, Requester Code.

Protect Priority

See: Lock Priority.

Protocol

The format to be used when sending data between two devices.

Protocol names are one to eight characters in length and are constructed using uppercase letters, numbers, and spaces. The first character must be a letter.

Readback

Information received from a routing switcher reporting which physical input is currently switched to a specified physical output.

To ensure that the configuration in the controller, and the actual state of the physical switches in a routing switcher agree, the routing switcher can be made to read back the status of each physical output. Where the routing switcher reports a different physical input from that expected by the controller, a readback error is declared.

Readback Error

See Readback.

Reentry

An entity which exists as both a source and destination at the same time, whose function is to facilitate switching a single source to multiple destinations, with a single logical switch.

Reentries are virtual entities that exist in the control software only. Their creation and use does not require any physical modification to the switching system hardware.

Example: Assume there exists source SRC1 and destinations DST1, DST2, and DST3. Reentry REENT1 is created and switched to the three destinations. With a single logical switch, SRC1 can now be switched to REENT1 and the signal will arrive at all three destinations at the same time.

A reentry is assigned both a source number and a destination number.

Reentry names are constructed using one category followed by 0, 1 or 2 indices. If no index is selected, the default “00” (which is not displayed) will be used.

Remote Modem

A modem connected to a 3500Plus System Controller.

The remote modem must be an external type capable of being configured to automatically answer incoming calls. Because the 3500Plus System Controller does not output any modem configuration information, the remote modem must be completely transparent to the controller. The only modems tested by PESA for use as remote modems are the Practical Peripherals PM288MT II and the U.S. Robotics Sportster 28.8 using the following initialization strings:

PM288MT II: AT S0=2 Q1 X4 &C1 &D0 &K3 &S1 &W0 &Y0

Sportster 28.8: AT &F1 S0=2 &H1 &R2 &I0 L2 Q1 &C1 &D0 Y0 &W0

For more information about these modems and their initialization strings, see the Practical Peripherals web site at http://www.practical.com/ or the U.S. Robotics web site at http://www.usr.com/. Before using any other type of modem for the remote modem, please consult with the PESA Customer Service Department.

Once a remote modem has been selected, it must be properly configured before it is connected to a 3500Plus System Controller. This is done by connecting the remote modem to a PC running , transferring certain data into the remote modem, disconnecting the remote modem from the PC, and then connecting the remote modem to the controller.

See also: Local Modem.

Requester Code

A property of panels and ports which allows them to be grouped with other panels or ports for the purpose of establishing lock and protect authority.

The requester code is used with the lock priority to determine if a lock or protect can be removed. When a lock or protect has been assigned by a panel or port, it can only be removed by another panel or port with a higher lock priority, or with the same lock priority and same requester code.

Panel requester codes not explicitly defined automatically default to the panel number.

RM5 Device

A device designed to be compatible with the System 5 (RM5) control protocol

The RM4000, RM5000 and Lynx routing switcher families are RM5 devices.

See also: PRC Device.

Salvo

A group of predefined logical switches taken in the same vertical interval.

Example: Assume that there exists two sources, CART1 and CART2; and three destinations, MON1, VTR1, and VTR2. All of these sources and destinations are defined on two levels, AUD and VID.

By pressing a single control panel key, the user desires to take the following switches: audio and video from CART1 to MON1; audio from CART2 and video from CART1 to VTR1; and audio and video from CART2 to VTR2.

Destination (Salvo Entry)	Level: AUD	Level: VID
MON1	CART1	CART1
VTR1	CART2	CART1
VTR2	CART2	CART2

Salvo SAL1 is created which will consist of three salvo entries (one salvo entry per destination in the salvo). Each salvo entry is then configured to switch the selected sources on the appropriate levels. Once salvo SAL1 is assigned to a salvo key on the control panel, the user will be able to take all the specified switches with the press of a single key.

All switches in a salvo are taken within the same vertical interval.

Salvo names are one to eight characters in length and are constructed using uppercase letters, numbers, and spaces. The first character must be a letter.

Salvo Entry

One or more logical switches assigned to a specific destination that is part of a salvo.

Salvo entry names are the same as the destination they are associated with.

Salvo Include List

A named list of the salvos a specific control panel is authorized to control.

A salvo include list may be shared by multiple panels.

Salvo include list names are one to eight characters in length and are constructed using uppercase letters, numbers, and spaces. The first character must be a letter.

Salvo Key

A user configurable control panel key, whose assigned function is used when the panel is in salvo select mode.

Many control panels have user configurable keys. Each key can be assigned two functions, one as a data key and one as a salvo key. When the keys are pressed, the data key functions are used except when the panel is in salvo mode.

When a panel is in salvo select mode, a salvo will be executed immediately when the salvo key is pressed.

Salvo Key List

A named list of the functions assigned to each salvo key on a panel.

A salvo key list may be shared by multiple panels as long as they are the same type of panel. Different panel types may not use the same salvo key list.

Salvo key list names are one to eight characters in length and are constructed using uppercase letters, numbers, and spaces. The first character must be a letter.

Serial Port

See: Port.

Shared Input

A logical input which is used by more than one source.

Note that shared outputs are not permitted.

See also: Source Block.

Soft Destination Key

See: Soft Key.

Soft Key

A special type of data key whose assigned function may be changed locally by a panel user.

is used to designate a data key as either a soft source key or a soft destination key. The assignment of a specific source or destination to the soft key may then be made with either , or locally at the panel by using Store Mode.

Soft Source Key

See: Soft Key.

Source

One or more logical inputs (limited to one per level), on one or more levels, which are switched together as a group.

Source names are constructed using one category followed by 0, 1 or 2 indices. If no index is selected, the default “00” (which is not displayed) will be used.

Source Block

A means of ensuring that a particular source will not be switched to a specific destination, inadvertently or without adequate permission.

When configuring a switching system, it may be desirable to use source blocking to restrict the switching of certain logical inputs. This may be done while configuring either sources or destinations.

Since a blocked source may contain a logical input that is shared (used by more than one source), care should be taken to ensure that all sources using the logical input are blocked from the destination to be protected.

Source Group

See: Source.

Source Include List

A named list of the sources a specific control panel is authorized to control.

A source include list may be shared by multiple panels.

Source include list names are one to eight characters in length and are constructed using uppercase letters, numbers, and spaces. The first character must be a letter.

Source Number

A number assigned to each source by the controller and used by CPU Protocol 1.

Source numbers are also assigned to reentries.

Status

A list of all sources on all levels currently switched to a selected destination.

Sometimes also used to refer to the operational state of the control system (lock status, switch status, and panel status).

Status Level

The default level to be used when displaying the status of a destination receiving signals from multiple sources, on a panel in all levels mode (ALL LEVS).

One function of the LCD display on a panel is to show which source is currently switched to a selected destination. This is known as destination status. Although more than one source can be switched to a single destination (limited to one source per level), the status display can only show one source at a time. When the panel is in all levels mode (ALL LEVS), Status Level is used to designate a default level to be used when displaying status. Only the source on this default level will be displayed. On panels which do not have LCD displays, this is indicated by a continuous, bright, pushbutton light.

If one or more other sources are also switched to the destination (on other levels), an octothorp (the "#" symbol) will be appended to the source name. The other source names can be viewed by toggling each level key in turn to show, level-by-level, which source has been switched to the destination. On panels which do not have LCD displays, this is indicated by an alternating bright/dim pushbutton light.

Status Method

One of two possible ways to display status when a panel is in all levels (ALL LEVS) mode and the destination is not defined on the Status Level.

When a panel is in all levels mode (ALL LEVS), the status shown will be the source on the Status Level assigned to that panel. If the destination is not defined on the Status Level, Status Method is used to control the resulting display:

If DEF (Default Method) is selected, NO XXXXX will be displayed where XXXXX is the Status Level assigned to the panel.

If GRP (Group Method) is selected, the controller will examine every level sequentially, starting with the level designated as Level Order 1. The source switched on the first level found where the destination is defined, will be displayed as the destination status.

Stop Bit

In asynchronous communications, a bit that indicates that a byte of data has just been transmitted.

Every byte of data is preceded by a start bit and followed by a stop bit.

Strobe

The third dimension of matrix space.

Every routing switcher in a switching system is assigned a strobe. This is usually accomplished by setting a DIP switch on the back of the routing switcher. Strobes do not have to be unique and, in larger systems, each strobe might be associated with several routing switchers.

In many switching systems, strobes are used to group levels of the same type together. For example, video may be on Strobe 1, audio on Strobe 2, etc.

Sync Reference

A reference signal used to ensure that switching occurs in the vertical interval of a video signal.

Sync Reference names are one to eight characters in length and are constructed using uppercase letters, numbers, and spaces. The first character must be a letter.

System 5 Device

See: RM5 Device

Tieline

A special type of logical switch that allows a logical input on one level to be switched to a logical output on a different level.

Example 1 - Switch a signal from analog camera ANCAM into an analog-to-digital converter (A/D) and then into digital video tape recorder DIGVTR: (Figure A) Connect a cable between the appropriate output connector of the analog routing switcher and the input of the A/D, and a cable between the output of the A/D and the appropriate input connector on the digital routing switcher. Configure levels ANAVID and DIGVID and tieline TLINE1 to connect them. Configure destination DIGVTR on level DIGVID. Configure source ANCAM on level ANAVID to use tieline TLINE1. ANCAM may now be switched to DIGVTR with a single logical switch even though they are on different levels.

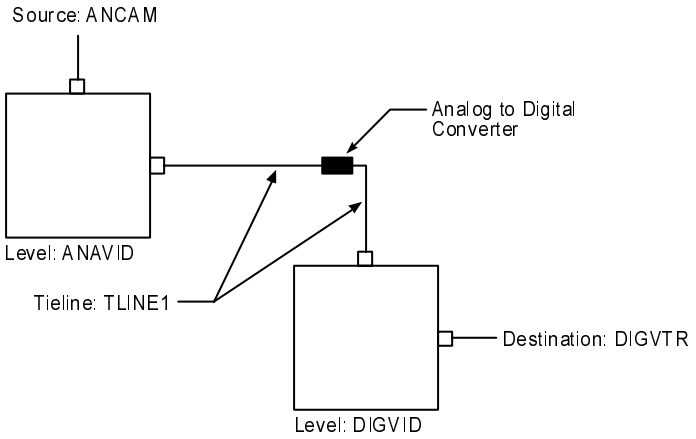


Figure A

Example 2 - Switch a signal from camera CAM1 (connected to a routing switcher in Room A) to video tape recorder VTR1 (connected to a routing switcher in Room B): (Figure B) Connect a cable between the appropriate output connector of the routing switcher in Room A and the appropriate input connector on the routing switcher in Room B. Create levels VIDA and VIDB and configure a tieline connecting the output of VIDA to the input of VIDB. Define source CAM1 on level VIDA and destination VTR1 on level VIDB. CAM1 may now be switched to VTR1 with a single logical switch even though they (and their respective routing switchers) are located in two separate rooms.

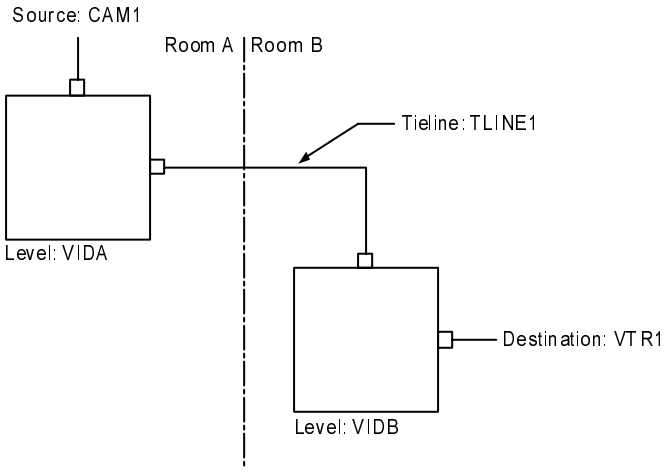


Figure B

Tieline names are one to eight characters in length and are constructed using uppercase letters, numbers, and spaces. The first character must be a letter.

User Account

A set of privileges and an optional user password saved as a user name.

User accounts provide a means of restricting access to certain system functions on a user-by-user basis.

User Name

An eight-character string consisting of upper case letters, numbers, spaces, and some symbols:

Permitted: ! @ # $ % ^ & * _ + - = [ ] \ : " ; ' < > . ? /

Forbidden: { } | , ( )

User Password

An eight-character string consisting of letters, numbers, and spaces. A User Password may begin with either a number or a letter. Leading spaces are discarded.

Working Directory

The directory on a PC where is installed.

If the default settings of the installation program were used, this will be c:\win3500p in 16-bit versions of Windows and c:\program files\win3500p in 32-bit versions of Windows. Configurations may not be saved in the working directory or any subdirectory of the working directory.

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Revision History

Rev.	Date	Description	By
A	03-30-99	Initial Release.	G. Tarlton
B	10-12-99	Revised for v1.2 software per ECO-3468.	G. Tarlton


PESA
Switching
Systems