By making use of the RS-232 interface installed in the VS-1202S, the switcher may be externally monitored and controlled. A PC program has been provided to this end, as well as an adaptor for connecting to the 25 pin serial port of the PC. Up to 8 switchers may be hooked up for individual serial control, and even mixing of several types of Kramer switchers is possible - enabling a highly automated vertical interval switching system to be set up.

## SETTING THE EXTERNAL DIP SWITCHES

Several switchers (viz. the VS-402, the VS-602, the VS-802, the VS-1202, and the VIS-4X4) may be daisy-chained via their serial ports and individually controlled using a RS-232 port on the PC. Although it is transparent to the user, all communication with the PC is done via only one switcher, even though up to eight may be connected. The switcher used for communication is known as the "master", and must always be numbered as Machine \# 1. All other switchers are known as "slaves", and these communicate with the PC via the master.

These slave switchers should be numbered from Machine \# 2 to Machine \# 8 in accordance with the number of switchers being used. Configuring of the Machine Number is done via the external DIP switches ie. the set of 8 switches which are accessible through the window on the back of the switcher. The DIP switchers should be set according to the following table:

| MACHINE \# | SWITCH SETTING |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | ON | OFF | ON | OFF | OFF | OFF | OFF | OFF |
| 2 | OFF | OFF | OFF | OFF | OFF | OFF | OFF | ON |
| 3 | OFF | OFF | OFF | OFF | OFF | OFF | ON | OFF |
| 4 | OFF | OFF | OFF | OFF | OFF | OFF | ON | ON |
| 5 | OFF | OFF | OFF | OFF | OFF | ON | OFF | OFF |
| 6 | OFF | OFF | OFF | OFF | OFF | ON | OFF | ON |
| 7 | OFF | OFF | OFF | OFF | OFF | ON | ON | OFF |
| 8 | OFF | OFF | OFF | OFF | OFF | ON | ON | ON |

HOOKING UP THE SYSTEM
A custom-made $25-$ pin to $9-$ pin adaptor is supplied with the machine. This adaptor has all the cross-connections required for working with the $25-\mathrm{pin}$ serial port of the PC (the adaptor is actually a null-modem adaptor together with a 25-pin to $9-$ pin convertor). This adaptor is to be plugged into the serial port (25-pin) of the PC.

The PC (via the 9-pin termination of this adaptor), the master, and the slaves may now be connected in parallel via their RS-232 connectors. This may be done using a flat cable and crimping on 9 pin plugs according to spacing requirements.

## INSTALLING THE SWITCH PROGRAM

Place the RS-232 MATRIX diskette in drive $A$ of the IBM compatible PC. Copy all the files on the MATRIX diskette to a convenient sub-directory on the hard disk (eg. C:\SWITCH).

Remove the diskette from drive $A$ and store it in a safe place.
NOTE: Refer to the DOS operating system manual if you are uncertain as to how to create sub-directories or copy files.

Before trying to operate the RS-232 MATRIX program, verify that all the associated switchers are turned on - if any of the installed machines are not active, the system will not operate properly.

To run the program, enter the sub-directory where the files were copied (eg. C: \SWITCH), type "MATRIX" and then press the ENTER key. The RS-232 matrix appears on the computer monitor showing the status of the switchers connected.

To select a switcher and a particular video source under its control, use the arrow keys on the computer keyboard. With the cursor located in the desired frame, press the ENTER key. The appropriate video source is is now selected and this is shown on the monitor.

There are several other functions available within the MATRIX program. These functions are listed at the top of the monitor, and are as follows:

```
F1 - HELP
                By pressing the F1 function key, the user has access to
                on-line help, giving a brief description of the features
                of the MATRIX program.
F2 - SCAN
                The program scans all the active attached switchers.
        This process confirms or resets the configuration which
        appears on the PC monitor.
        An example will clarify the importance of this function.
        If for some reason, a switcher was disconnected from the
        system (ie. from the RS-232 cable), following activation
        of the SCAN function, that machine will no longer appear
        on the screen matrix. Similarly, if a machine was added
        to the system, after pressing the F2 function this new
        machine will be shown on the matrix.
F3 - SAVE
        The configuration shown will be saved to a file. A
        window opens after F3 is pressed, and the user is
        requested to provide a name for the file. The saved file
        may be recalled using the LOAD function.
F4 - COMM
        This function is used to select the monitor type (color
        or monochrome) which is to be used to display the table
        of switchers. Also, the active port (COM1 or COM2) used
        for communication with the switchers, is selected.
F5 - LOAD
    A saved matrix configuration (via the F3 - SAVE
    function) is recalled using this function.
Q - QUIT
    To leave the MATRIX program, press the "Q" key. User
    confirmation is required before the program is quit.
```

