

# ESC PROFILE SOFTWARE

Complete Instruction Manual for  
the Novak ESC Profile Software  
Program.



## CONTENTS

Introduction .....	2
What's Included .....	2
Adjustable Parameters .....	3
Hardware Installation .....	11
Operating System Requirements .....	12
Running From 3.5" Floppy Drive .....	12
Installing/Running Software .....	13
Windows 3.1® & Windows 95® .....	13
MS® DOS .....	13
Precautions .....	14
Acquiring Default Parameters .....	14
Uploading Parameters From Cyclone .....	15
Editing Parameters .....	16
Downloading Parameters To Cyclone .....	18
Saving Parameters To Disk .....	19
Reading Parameters From Disk .....	19
Monitoring Transmitter Trigger .....	20
Sample Profile Data .....	20
Service Procedures .....	21
Service Return Sheet .....	22
Trouble-Shooting Guide .....	23
Software License & Product Warranty .....	23
Profiles .....	24
Profiles .....	25
Index .....	26
Notes .....	28

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## **INTRODUCTION**

When designing an electronic speed control, the Novak engineers are put to the task of setting design parameters such as how wide the Deadband should be, what percentage of Full Drive should be applied with the first pulse of transmitter information, or what Brake and Drive Frequencies to use. In the past our engineers would determine the best possible compromise for these parameters based on different vehicles and driving styles. While these fixed designs were perfect for some applications and some drivers, they were not right for others. It became clear that a speed control was needed that allowed the driver to modify several of the design parameters to fit their differing applications and needs.

During testing, our engineers found that different vehicles required different parameter values, just as each individual driver required different parameters to obtain the type of feel that they desired.

With this criteria in mind, Novak proudly brings you the Cyclone Programmable Speed Control and the Profile Software (#1030).

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## **WHAT'S INCLUDED**

- **PROFILE SOFTWARE**

Specialized profiling software that allows you to customize the adjustable parameters of the Novak Cyclone Electronic Speed Control (ESC), including the Deadband width, Minimum Drive percentage, Drive & Brake PWM Frequencies, and more.

- **DATALINK HARDWARE**

Comes with everything needed to hook-up your Cyclone speed control to an IBM®-compatible personal computer. Including DataLink for connecting to speed control, DB9/RJ11 adaptor for connecting to the communications serial port of computer, and an RJ11 (6-conductor) cable for connecting the DataLink to the DB9/RJ11 adaptor.

- **ELECTRONIC INSTRUCTION MANUAL**

Complete instruction manual is included on disk as a PDF file.

# ADJUSTABLE PARAMETERS

Novak's Profile Software allows you to access the Cyclone speed control's previously hidden fourth Profile. This user-programmable Profile gives you the ability to customize several of the design parameters of the speed control. This adjustability will allow you to custom tailor the speed control's response and feel to your preference for different applications. **This section lists the user-adjustable parameters, their descriptions, and applications:**

- **NEUTRAL**

- Measured in microseconds ( $\mu\text{s}$ ).

- Position at which the speed control is at rest, with no Drive or Brake being applied.

- Initial value is taken from the transmitter, as recorded in the One-Touch Set-Up memory of the speed control.

- **FULL THROTTLE**

- Measured in microseconds ( $\mu\text{s}$ ).

- Trigger position at which speed control reaches Full Drive.

- Initial value is taken from the transmitter, as recorded in the One-Touch Set-Up memory of the speed control.

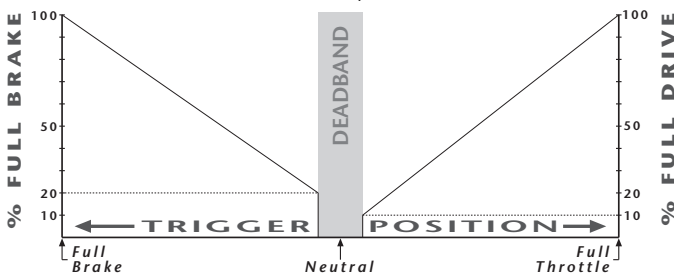
- **FULL BRAKE**

- Measured in microseconds ( $\mu\text{s}$ ).

- Trigger position at which speed control reaches Full Brake.

- Initial value is taken from the transmitter, as recorded in the One-Touch Set-Up memory of the speed control.

*Note: For optimum performance from your Cyclone, the values for Full Throttle and Full Brake should be at least  $350\mu\text{s}$ .*

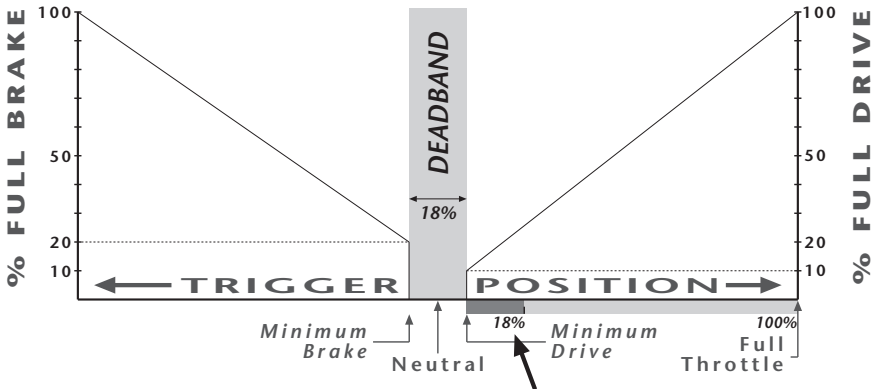


**Figure 1:** Neutral, Full Throttle, and Full Brake shown graphically by percent of drive or brake applied at a given trigger position.

## ADJUSTABLE PARAMETERS (CONT.)

### • DEADBAND

- Measured as percentage (%) of Full Throttle trigger position.
- Space between Minimum Brake and Minimum Drive, with Neutral located at the center of this space (Figure 2).
- Changing the Deadband value will change the point at which forward Drive begins with respect to Neutral.
- Increasing Deadband** will require more trigger movement away from Neutral to reach both the first pulse of Drive and the first pulse of Brake. **Example: Adding 10% to the value of Deadband will in turn add 5% Deadband in the Full Throttle trigger direction, and 5% Deadband in the Full Brake trigger direction.**
- Decreasing Deadband** will require less trigger movement to reach the first pulses of Drive and Brake.



**Figure 2:** Deadband graphically displayed as a percentage of the Full Throttle trigger position, which is measured in microseconds.

## ADJUSTABLE PARAMETERS (CONT.)

### • DRIVE PWM FREQUENCY

–Measured in Hertz (Hz).

–Frequency at which the duty cycle information is being sent from speed control to motor (*How many times per second the motor is being cycled on and off to control it's speed*).

–Drive PWM Frequency controls acceleration characteristics of your vehicle with respect to trigger movement in the Full Throttle direction (Figure 3). By changing the value of Drive PWM Frequency you change the manner in which the vehicle responds to transmitter trigger input.

–**Increasing Drive PWM Frequency** requires more initial trigger movement to obtain the same given speed. Light vehicles feel more controllable / Heavy vehicles more sluggish.

–**Decreasing Drive PWM Frequency** requires less initial trigger movement to obtain the same given speed. Light vehicles are harder to control at the low end (possibly spinning the rear wheels) / Heavy vehicles are more reactive.

–**This parameter can be used as a valuable tuning asset for different types of motors and track conditions.**

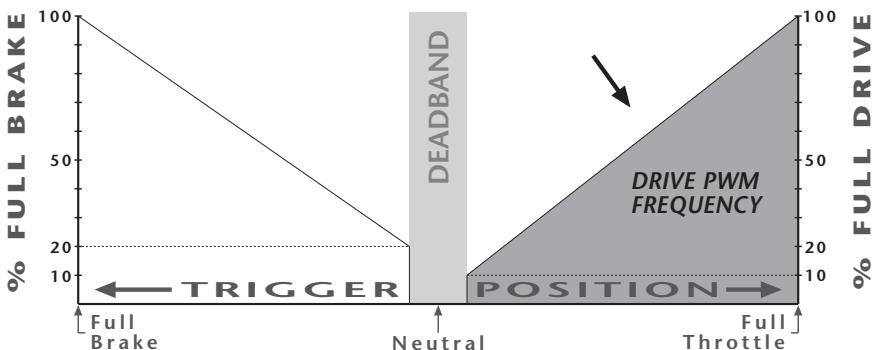
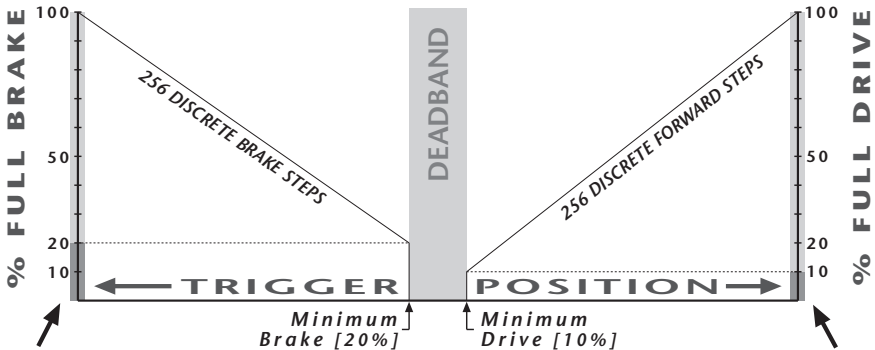


Figure 3: Graphical location of area affected by Drive PWM Frequency.

## ADJUSTABLE PARAMETERS (CONT.)

- **MINIMUM DRIVE**

- Measured as percentage (%) of the Full Drive value.
- Amount of Drive applied with the first pulse of transmitter throttle information (Figure 4).
- **Increasing the Minimum Drive** will make the speed control begin at a greater percentage of Full Drive. This is useful for tracks with good traction and for heavier vehicles to eliminate ‘dead’ trigger movement before the motor can actually move the vehicle (*and will increase the vehicle’s minimum rolling speed*).
- **Decreasing the Minimum Drive** will make the speed control start at a smaller percentage of Full Drive. This is useful for tracks with low-bite and lighter vehicles where lower initial power will give more controllability. This parameter is also a valuable tuning asset for different types of motors.



**Figure 4:** Graphical representation of Minimum Drive and Minimum Brake as percentage of Full Drive and Full Brake, respectively.

## ADJUSTABLE PARAMETERS (CONT.)

### • BRAKE PWM FREQUENCY

–Measured in Hertz (Hz).

–Frequency at which the duty cycle information is being sent from speed control to motor for braking.

–Brake PWM Frequency controls deceleration characteristics of your vehicle with respect to trigger movement in the Full Brake direction (Figure 5). Changing Brake PWM Frequency allows you to change the manner in which the vehicle responds to brake trigger input.

–**Increasing the Brake PWM Frequency** will require more initial trigger movement to obtain the same amount of braking. Light vehicles brake more controllably under initial braking / Heavy vehicles brake less reactively.

–**Decreasing the Brake PWM Frequency** will require less initial trigger movement to obtain the same amount of braking. Light vehicles are harder to control under initial braking (possibly locking up the wheels) / Heavier vehicles are more reactive to initial braking efforts.

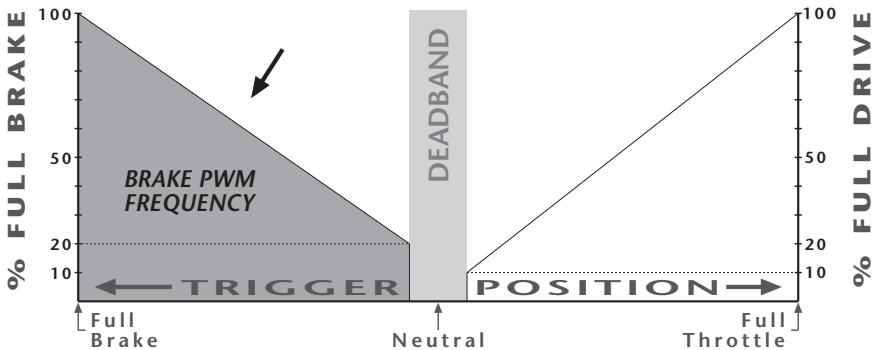


Figure 5: Graphical location of area affected by Brake PWM Frequency.

## ADJUSTABLE PARAMETERS (CONT.)

### • DRAG BRAKE VALUE

- Measured as percentage (%) of Full Brake value.
- Adjusts amount of Drag Brake applied within the Deadband when throttle trigger is in the Neutral position (Figure 6).
- When the Drag Brake value is greater than zero**, Drag Braking is applied in the Deadband area. When the throttle trigger is returned to Neutral, braking information is sent to the motor. This can be used to obtain Drag Brakes without shifting the Neutral position of the transmitter with the throttle trim, and will in turn eliminate the Deadband (now 'dead' trigger) space that has also been shifted toward the Full Throttle side of the trigger movement before Drive can be applied.
- When the Drag Brake Toggle is set to ON position**, the Brake Pot on the Cyclone adjusts the Drag Brake Value. Drag Brakes during Neutral/Deadband are now set at the same level as Minimum Brake. **With Drag Brake Toggle ON, the Drag Brake Value can NOT be set with the ESC Profile Software, only with the Brake Pot on the Cyclone.**
- When Drag Brake Toggle is OFF**, the Brake Pot on the Cyclone adjusts only the Minimum Brake value. Drag Brake Value can now be set above zero with the Profile Software to obtain Drag Brakes. Minimum Brake value can now be independently set higher or lower than the Drag Braking (Figure 8).

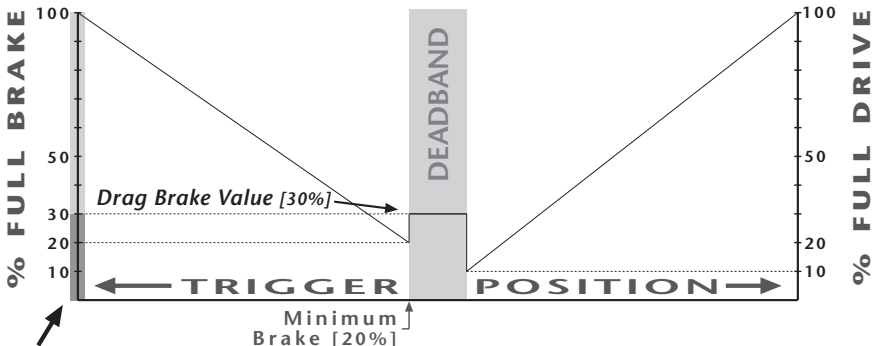
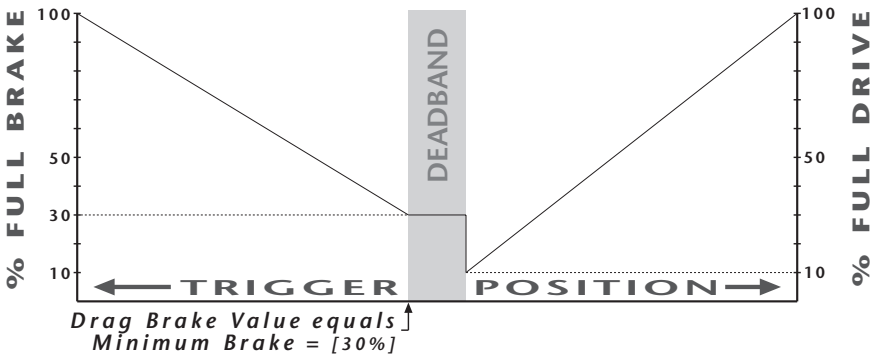


Figure 6: Graphical representation of Drag Brake Value as a percentage of Full Brake.

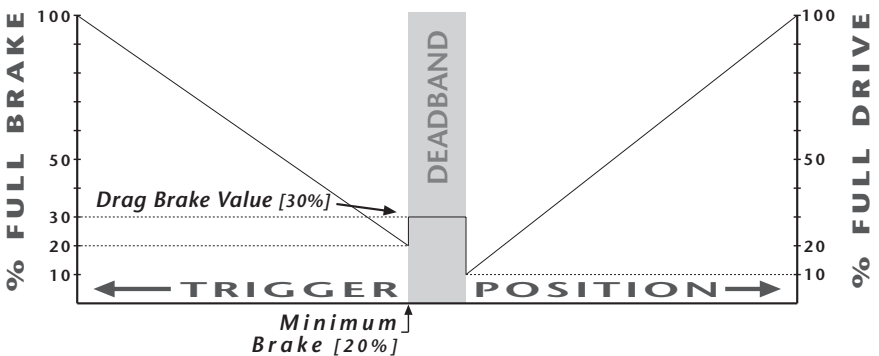
# ADJUSTABLE PARAMETERS (CONT.)

## • DRAG BRAKE TOGGLE

- Switches Brake Pot of the Cyclone ESC from Minimum Brake adjustment to Drag Brake Value & Minimum Brake adjustment.
- When Drag Brake Toggle is ON**, Drag Braking is applied in the Neutral/Deadband area at the same frequency as Brake PWM Frequency is set (Figure 7). When the trigger is returned to the Neutral position, braking information is sent to the motor.



**Figure 7:** Drag Brake Toggle ON—Drag Brake Value = Minimum Brake (Both are set with Brake Pot). Drag Brake Frequency = Brake PWM Frequency (Both are set with Brake PWM Frequency adjustment).



**Figure 8:** Drag Brake Toggle OFF—Independent adjustment of Minimum Brake via Brake Pot, and Drag Brake Value, Brake PWM Frequency, and Drag Brake Frequency with Profile Software.

## ADJUSTABLE PARAMETERS (CONT.)

### • DRAG BRAKE FREQUENCY

–Measured in Hertz (Hz).

–Frequency at which duty cycle information is being sent from Cyclone to motor for Drag Braking during Neutral/Deadband.

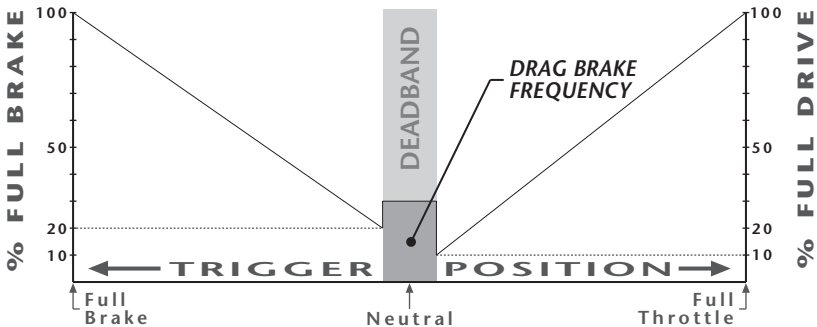
–The Drag Brake Frequency (Figure 9) controls deceleration characteristics of vehicle with Drag Brake during Neutral/Deadband. Changing the Drag Brake Frequency changes the manner in which the vehicle responds to Drag Brake.

–The Drag Brake Frequency affects the Drag Brake only when the Drag Brake Toggle is OFF.

–**Decreasing the Drag Brake Frequency** makes the braking more reactive during the Neutral/Deadband.

–**Increasing the Drag Brake Frequency** makes the braking more subtle during Neutral/Deadband.

–**With Drag Brake Toggle OFF**, Drag Brake can be used with a higher setting of Drag Brake Value (on PC) along with a high setting of Brake PWM Frequency, and an increased Minimum Brake setting (Brake Pot), to obtain battery regeneration without noticeable increased braking effects. **With Drag Brake Toggle ON, Brake PWM Frequency is adjusting frequency of both the brakes in the Neutral/Deadband area and the brakes controlled by brake trigger movement.**



**Figure 9:** Graphical location of area affected by Drag Brake Frequency when the Drag Brake Toggle is OFF.

# HARDWARE INSTALLATION

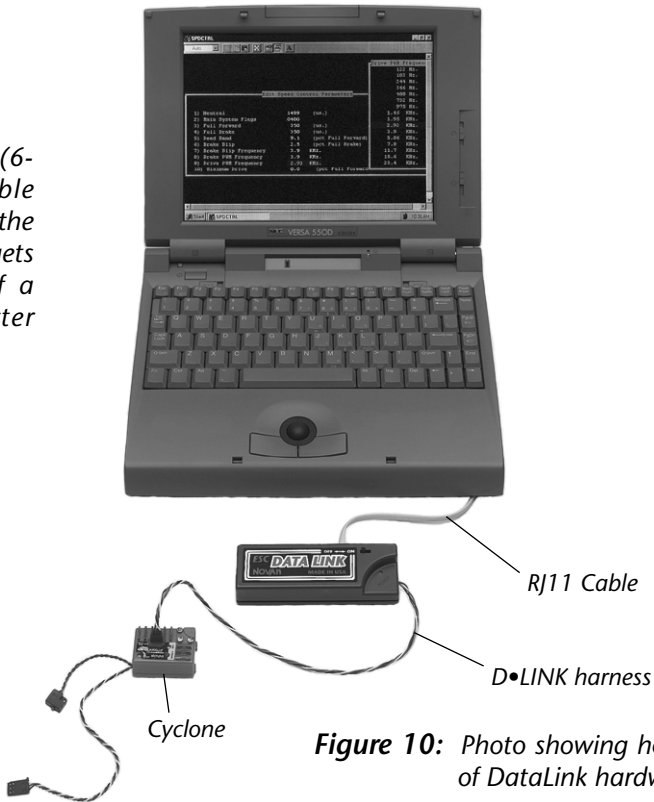
## 1. Install 9V Battery

- Remove the four (4) screws from bottom of DataLink case with a number 1 phillips screwdriver.
- Connect a 9 volt battery (*Not included*) to the battery harness.
- Position battery in battery box and replace bottom of case.
- Replace the four (4) screws, being careful not to overtighten.

## 2. Connect the DB9 end of the included DB9/RJ11 adaptor to the communications serial port (#1 or #2) of your computer.

## 3. Connect the included RJ11 cable between the RJ11 side of the DB9/RJ11 adaptor and the RJ11 port on the side of DataLink case.

*Note: Any RJ11 (6-conductor) cable may be used if the included cable gets damaged or if a longer or shorter cable is desired.*



**Figure 10:** Photo showing hook-up of DataLink hardware.

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## OPERATING SYSTEM REQUIREMENTS

Your computer must meet the following system requirements in order to install and run the Profile Software:

<b>Computer</b>	IBM PC/Compatible (80386, 80486, & Pentium)
<b>Memory</b>	640K minimum
<b>Disk Space</b>	200K minimum (can run from 3.5" floppy drive)
<b>Disk Drive</b>	3.5" floppy disk drive Hard drive (for Profile storage)
<b>Operating System</b>	MS <sup>®</sup> DOS or Windows <sup>®</sup> ( <i>Windows<sup>®</sup> runs in DOS—create short-cuts to run from main desktop</i> )
<b>Monitor</b>	Black & White, Color, or VGA
<b>Serial Port</b>	DB9 communications port ( <i>Use a DB25/DB9 adaptor if your computer does not have a DB9 port</i> )
<b>Mouse</b>	Not supported (with Version 1.0 Profile Software)

*Note: For your protection, we suggest that you make a copy of the Profile Software diskette before running or installing software.*

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## RUNNING FROM 3.5" FLOPPY DRIVE

If you do not want to install the software onto the hard drive, you can run from the 3.5" floppy disk drive by following these steps:

1. Insert the included diskette into the 3.5" floppy disk drive.
2. At the indicated computer prompts, enter the given responses:  
*Computer prompts are shown for drive A, if you are using drive B then "B:" will be displayed. The "RUN1" statement instructs the computer to use serial port #1, if you connected the DataLink to serial port #2 then you will type "RUN2".*

<u>Computer Prompt</u>	<u>Enter the Following</u>
A:	{press Enter}
A:\	RUN1 {press Enter}

This will execute the SPDCTRL.EXE program and you are ready to use the Profile Software to upload, download, customize, and store Profiles for your Cyclone Programmable speed control.

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# INSTALLING/RUNNING SOFTWARE

This procedure will copy all of the files from the included diskette onto the hard drive in a sub-directory titled "Novak":

## **WINDOWS 3.1® & WINDOWS 95®**

1. Insert the included diskette into the 3.5" floppy disk drive.
2. Click on the "Start" icon, and select the "RUN" option.  
(Select "File" option then "Run" option for Windows 3.1®)
3. At the indicated computer prompt, enter the given response:  
*If you are using drive B then "B:" will be displayed.*

### Computer Prompt

### Enter the Following

Open:

A:SETUP {click OK}

*Note: There is no space between "A:" and "SETUP".*

*("Command:" is computer prompt shown for Windows 3.1®)*

4. To run the Profile Software program, execute the program file "SPDCTRL.EXE" by clicking on "RUN1" or "RUN2", depending on which serial port you connected the DataLink to.

## **MS® DOS**

1. Insert the included diskette into the 3.5" floppy disk drive.
2. At the indicated computer prompts, enter the given responses:  
*Computer prompts are shown for drive A, if you are using drive B then "B:" will be displayed. The "INSTALL A: C:" statement instructs the computer to install the files onto hard drive C, if you wish to use a different hard drive location then you will type the command with the desired drive, such as "INSTALL A: D:", etc.*

### Computer Prompt

### Enter the Following

A:

{press Enter}

A:\

INSTALL A: C: {press Enter}

*Note: There is a space between "INSTALL" and "A:", and before "C:".*

3. To run the Profile Software program, execute the SPDCTRL.EXE program by entering the given response:

*The "RUN1" statement instructs the computer to use serial port #1, if you connected the DataLink to serial port #2 then you will type "RUN2".*

### Computer Prompt

### Enter the Following

C:\Novak

RUN1 {press Enter}

This will execute the SPDCTRL.EXE program and you are ready to use the Profile Software to upload, download, customize, and store Profiles for your Cyclone Programmable speed control.

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## PRECAUTIONS

In addition to using basic common sense, please take special note of the following precautions:

- Make a back-up copy of the Profile Software diskette before attempting to run or install software.
- Water and electronics DO NOT mix.
- DO NOT allow connector pins on D•LINK harness to contact transistor tabs or heat sinks on speed control.
- DO NOT touch connector pins on D•LINK harness to avoid static electricity damage to the electronics.
- Be careful when connecting or disconnecting D•LINK harness to DataLink socket on speed control to avoid damage.
- Motor cleaner and solvents may damage DataLink case and D•LINK harness.

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## ACQUIRING DEFAULT PARAMETERS

In order to edit and customize Profiles, you must first upload the default parameter values from your Cyclone speed control (Next section). When you upload the default parameters for the first time, you will be reading Profile 1, 2, or 3 from your Cyclone, depending on which Profile is currently active. Neutral, Full Throttle, and Full Brake are the default parameter values that were programmed into the One-Touch memory of your Cyclone, based on the available throw of your transmitter. These values are the standards for what will be the newly created Profile 4.

In most cases, you will not want to modify the values for Neutral, Full Throttle, and Full Brake. These values set the exact point of Neutral, and give you the complete range of throttle in both the forward and brake directions. However, there are some instances (To be discussed later in the *Editing Parameters* section) in which changing these values could be useful.

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## UPLOADING PARAMETERS FROM CYCLONE

The following steps will allow you to upload the Parameters from the Cyclone speed control. The values for the Profile (1, 2, 3, or 4) that is currently active in the Cyclone will be uploaded.

1. With DataLink connected as previously instructed, turn on the DataLink's power switch. Red power LED will blink on and off.  
*Note: We recommend that you turn off the DataLink's power when not in use to extend the life of the 9V battery.*
2. Start your computer and Run the Profile Software program as previously instructed.
3. Turn on your transmitter, then turn on your speed control.  
*Note: Use a DSC cord to disable the transmitter's RF section to avoid radio interference. If you do not have your transmitter or a DCS cord, disconnect the servo from receiver and lift the vehicle's wheels into the air until D•LINK is connected.*  
*Note: Motor will be disabled as soon as D•LINK harness is connected.*
4. Connect the DataLink's D•LINK harness to your Cyclone's DataLink socket located on the top of the speed control. The D•LINK connector can only clear the transistors on the speed control if the "D•LINK" lettering is right side up. If you have external heat sinks installed, be sure that they do not extend beyond the front edge of the transistors—You may need to reposition heat sinks to gain proper access to the connector.  
*At this time the Cyclone's LED should be illuminated solid red.*
5. From the main menu, use the up {↑} or down {↓} arrow keys to highlight "Upload Parameters From Cyclone", then press {Enter} or {Return} to select.
6. Press {Enter} or {Return} to upload the parameters from the Cyclone.
7. Press {Enter} or {Return} again to return to the main menu.

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## EDITING PARAMETERS

This function of the Profile Software is where you will be able to edit and customize Profile 4 of the Cyclone and it's parameters. You are able to work in the *Edit Current Parameters* mode at any time, you do not need to have the speed control connected to the DataLink.

1. From the main menu, use the up { ↑ } or down { ↓ } arrow keys to highlight "Edit Current Parameters", then press {Enter} to select. *Edit Current Parameters* refers to the version of Profile 4 that is currently active in the Profile Software.
2. Use the up { ↑ } or down { ↓ } arrow keys to highlight the available parameters, then press {Enter} to modify the value.
3. For **Deadband**, **Drag Brake Value**, and **Minimum Drive** the values are entered as percentages measured to the nearest tenth of one percent (0.1%), and the decimal place is fixed and does not need to be entered. So values will be entered as 100 for 10.0%, 101 for 10.1%, 102 for 10.2%, etc.

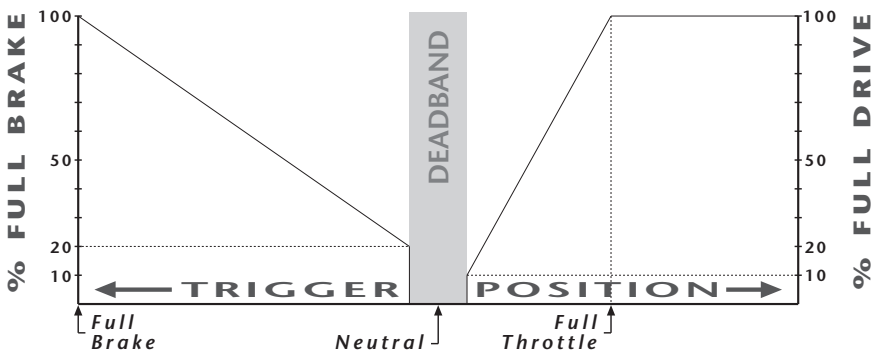
*Note: To enter values less than 10.0% you will need to include the leading zero (051 for 5.1%, 052 for 5.2%, 099 for 9.9%, etc.) or move the cursor one position to the right, using the right {→} arrow key, before entering the value.*

4. To modify **Drive PWM Frequency**, **Brake PWM Frequency**, **Drag Brake Frequency**, or **Drag Brake Toggle** use the up { ↑ } or down { ↓ } arrow keys to highlight one of these four parameters. The pop-up list shows the available choices.
  - To change the frequency, hold down the Control {Ctrl} key and use the up { ↑ } or down { ↓ } arrow keys to highlight the desired frequency, then press {Enter} or {Return} to select it.

*Note: If you do not press {Enter} or {Return}, the program will revert to the previously entered frequency.*

## EDITING PARAMETERS (CONT.)

5. The **Neutral**, **Full Throttle**, and **Full Brake** parameters should not be modified for typical applications. However, there may be a few situations where changing these values can be helpful.
- One example for changing these parameters would be for Drag Racing, where a shorter trigger throw may be desirable in order to reach Full Drive faster by pulling the trigger a shorter distance. You would do this by decreasing the value for Full Throttle (Figure 11).
  - To change parameter values, use the up {↑} or down {↓} arrow keys to highlight the desired parameter, type in the desired value, then press {Enter} or {Return} to enter.
- Note: The standard One Touch Set-Up value for Full Throttle throw should always be greater than that of Full Brake throw. If, before modifying these values, this is not the case you should change the set-up of your transmitter (Refer to transmitter's owner manual).*
6. Once you have modified the given parameters, use the up {↑} or down {↓} arrow keys to move to the last parameter and press {Enter} or {Return} to exit to the main menu of the Profile Software.



**Figure 11:** Graphical display of the Full Throttle position shifted toward Neutral for Drag Racing.

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## DOWNLOADING PARAMETERS TO CYCLONE

The following steps will allow you to download the Profile that is currently displayed in the *Edit Current Parameters* mode of the software to the Cyclone. The downloaded Profile will always be the active Profile in the Cyclone even if this is the first time Profile 4 has been activated. You will now have the original three Profiles that came with the Cyclone, plus the custom Profile (Profile 4) to choose from through the One-Touch button.

*Refer to your Cyclone Owner's Manual for instructions on selecting Profiles.*

1. With DataLink connected as previously instructed, turn on the DataLink's power switch. Red power LED will blink on and off.
2. Turn on your transmitter, then turn on your speed control.

*Note: Use a DSC cord to disable the transmitter's RF section to avoid radio interference. If you do not have your transmitter or a DSC cord, disconnect servo from receiver and lift vehicle's wheels into the air until D•LINK is connected.*

*Note: Motor will be disabled as soon as D•LINK harness is connected.*

3. Connect the DataLink's D•LINK harness to your Cyclone's DataLink socket located on the top of the speed control. The D•LINK connector will only clear the transistors of the speed control if the "D•LINK" lettering is right side up. If you have external heat sinks installed, be sure that they do not extend beyond the front edge of the transistors, as they may have to be repositioned to gain access to the connector.

*At this time the Cyclone's LED should be illuminated solid red.*

4. From the main menu, use the up {↑} or down {↓} arrow keys to highlight "Download Parameters To Cyclone", then press {Enter} or {Return} to select.
5. Press {Enter} or {Return} to download the parameters to the Cyclone.
6. After the downloading process is complete, the software will return you to the main menu.

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## SAVING PARAMETERS TO DISK

Any Profile created or uploaded can be saved to your hard drive using these steps. Each Profile can be given a name of up to eight characters long for future reference.

*Tip: You can use names like "OFFRD-LB" for your Offroad Buggy on Low Bite tracks, or "TRCK-WET" for your Truck and Wet conditions.*

1. Upload or use the Edit Current Parameters mode to create the Profile you would like to save, and return to the main menu.
2. From the main menu, use the up {↑} or down {↓} arrow keys to highlight "Save Parameters To Disk", then press {Enter} or {Return} to select.
3. Type in the eight character name for the new Profile and press {Enter} or {Return} to save.
4. After the saving process is complete, the software will return you to the main menu.

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## READING PARAMETERS FROM DISK

Any Profile saved to the hard drive can be retrieved by following these steps. The Profile can then be viewed, modified, or downloaded from the Edit Current Parameters mode.

1. From the main menu, use the up {↑} or down {↓} arrow keys to highlight "Read Parameters From Disk", then press {Enter} or {Return} to select.
2. Use the up {↑} or down {↓} arrow keys to highlight the Profile to be retrieved, then press {Enter} or {Return} to select.
3. After the retrieving process is complete, you will return to the main menu.
4. To view the retrieved Profile, use the up {↑} or down {↓} arrow keys to highlight "Edit Current Parameters", then press {Enter} or {Return} to select.

## MONITORING TRANSMITTER TRIGGER

This function allows you to monitor the values of your transmitter's throw for Full Brake and Full Drive, as measured in microseconds.

1. Turn on your transmitter, then turn on your speed control. The Cyclone's LED should be illuminated solid red.
2. Connect the DataLink's D•LINK harness to your Cyclone's DataLink socket, then turn on the DataLink's power switch.
3. From the main menu, use the up {↑} or down {↓} arrow keys to highlight "Monitor Transmitter Trigger", then press {Enter} or {Return} to select.
4. Move transmitter trigger to Full Drive, Full Brake, or Neutral to measure position. *Difference between Neutral and Full Drive value gives the transmitter's Drive throw, to Full Brake gives Brake throw.*

## SAMPLE PROFILE DATA

Included below (*and in the software*) is sample data for Profiles developed by the Novak Racing Team at various racing events with different vehicle/motor combinations. Use these Profiles as they are, or as references for creating your own custom Profiles.

PROFILE • VEHICLE • CONDITIONS	DR. PWM	MIN.	BR. PWM	DRAG BR.	DRAG BRAKE
	FREQ.	DRIVE	FREQ.	TOGGLE	FREQ./VALUE
	kHz	%Full Fwd	kHz	ON/OFF	kHz/%Full Br.
01. Buggy-Modified-High Traction	11.7	4.0	3.9	OFF	-/0%
02. Buggy-Modified-Low Traction	15.6	2.0	3.9	OFF	-/0%
03. Buggy-Stock	11.7	8.5	3.9	OFF	-/0%
04. Truck-Modified	11.7	6.5	3.9	OFF	-/0%
05. Truck-Stock	7.8	9.0	3.9	OFF	-/0%
06. 1/10 OnRoad-Modified	23.4	7.5	3.9	OFF	-/0%
07. 1/10 OnRoad-Mod-Drag Brake	23.4	7.5	3.9	OFF	5.86/4.0%
08. 1/10 OnRoad-Stock	15.6	9.0	3.9	OFF	-/0%
09. 4WD Touring Sedan-Modified	23.4	5.5	3.9	OFF	-/0%
10. Formula 1	23.4	2.5	5.86	OFF	-/0%
11. 1/12 OnRoad-Modified-6 Cell	23.4	3.7	3.9	OFF	-/0%
12. 1/12 OnRoad-Modified-4 Cell	5.86	6.9	3.9	OFF	-/0%
13. 1/12 OnRoad-Stock-4 Cell	2.93	8.0	3.9	OFF	-/0%
14. 4WD Buggy-Mod-Lo.Trac.-Dr.Br.	11.7	5.9	3.9	OFF	3.9/15.1%
15. Buggy-Mod-Low Traction-Dr.Br.	11.7	2.0	3.9	OFF	3.9/15.1%
16. Buggy-Mod-High Traction-Dr.Br.	11.7	4.0	5.86	ON	N/A
17. Buggy-Mod-Low Traction-Dr.Br.	15.6	2.0	5.86	ON	N/A
18. 1/10 OnRoad-Mod-Drag Brake	23.4	7.5	5.86	ON	N/A
19. 4WD Touring Sedan-Mod-Dr.Br.	23.4	5.5	3.9	ON	N/A
20. Formula 1-Drag Brake	23.4	2.5	11.7	ON	N/A

\*Deadband Value is 4.9% for all listed Profiles.

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## SERVICE PROCEDURES

*If your DataLink is not working properly, please review the Trouble-Shooting Guide (page 23) and all instructions before returning the unit for service.*

### WHAT TO SEND

Completely fill out all the information on the **SERVICE RETURN SHEET** (next page) and return it with the DataLink, RJ11 cable, and DB9/RJ11 adaptor. It is not necessary to send instruction manual, box, software disk\*, or speed control. If a hobby dealer returns your DataLink for service, submit a completed copy of the **SERVICE RETURN SHEET** to the hobby dealer, and give instructions to have it included with the package.

*\*If the software disk is damaged, please return the original disk to Novak Electronics. The disk will be replaced upon receipt at no charge.*

### WARRANTY WORK

For unit to be considered under warranty, you must claim warranty on the **SERVICE RETURN SHEET** and attach a valid, dated sales receipt, or a previous service invoice dated within the last 90 days. If any warranty provisions have been voided, there will be a service charge. **NOTE: Dealers and/or distributors are not authorized to replace units thought to be defective.**

### SERVICE COST

**If Unit is Serviced Under Warranty:** The unit will be replaced or repaired (at Novak's discretion) at no charge.

**If Unit is Not Serviced Under Warranty:** The unit will be replaced or repaired (at Novak's discretion) for a fee of \$20.00 plus shipping and handling.

**If Unit Operates Normally:** The unit will be returned and charged a minimum inspection fee of \$15.00 plus shipping and handling.

### SERVICE TIME

Normal turnaround time is approximately 5 working days from the date your unit is received. Service time does not include the return shipping time. If you are in a hurry, you can ship the unit to Novak Electronics by a one or two day shipping service—such as Federal Express Overnight or UPS 2-Day Air. Customer assumes all shipping charges.

#### **CUSTOMER SERVICE**

(714) 833-8873 • FAX (714) 833-1631

**HOURS (PST):** Mon-Thurs: 8:00 am to 5:00 pm

Friday: 8:00 am to 4:00 pm (Closed every other Friday)

# DATA LINK

# SERVICE RETURN SHEET

IF YOUR DATA LINK IS NOT OPERATING PROPERLY, COMPLETE ALL INFORMATION ON THIS SHEET (OR A COPY), AND RETURN IT WITH YOUR DATA LINK, CABLE, & ADAPTOR.

## SHIP DATA LINK TO:

**NOVAK ELECTRONICS, INC.** 18910 Teller Avenue, Irvine, CA 92612 USA • Attn: Service Dept.

NOTE: Please read the Trouble-Shooting Guide and all instructions before sending in your DataLink for service. If the unit operates normally when received, a \$15.00 inspection fee will be charged.

## CUSTOMER'S RETURN SHIPPING ADDRESS

NAME		DAYTIME PHONE ( )	DATE
ADDRESS (UPS will not deliver to a PO Box)		<input type="checkbox"/> Residential <input type="checkbox"/> Commercial	CITY
STATE	ZIP CODE	COMPANY (If applicable)	

## 1 INSTALLATION/MODEL

PROFILE SOFTWARE Version # \_\_\_ Serial # \_\_\_\_\_

COMPUTER (Mnf/Model) \_\_\_\_\_

OPERATING SYSTEM  Windows 95®  MS® DOS  
 Windows 3.1®  \_\_\_\_\_

## 2 DESCRIPTION OF PROBLEM

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Has this unit ever worked properly?  Yes  No

Has unit ever been sent in for service?  Yes\*  No

\*Attach a copy of the previous service invoice to this sheet.

## 3 CLAIMING WARRANTY?

**YES** An itemized sales receipt or previous service invoice dated within the last 90 days must be stapled to this sheet. Please read the Warranty Statement. If no provisions have been voided, the unit will be replaced/repaired at no charge. **Complete STEPS 4-6.**

Purchase Date \_\_\_\_\_

Purchased From \_\_\_\_\_

Dealer's PH# ( ) \_\_\_\_\_

**NO** Unit will be replaced/repaired for a \$20 fee plus shipping and handling. **Complete STEPS 4-6.**

## 4 RETURN SHIPPING

Please select a UPS shipping method\*\*:

GROUND  3-DAY  2-DAY  NEXT DAY


\*\*If method is not selected, unit will be shipped UPS Ground.

**Units Serviced Under Warranty:** Units shipped back to one of the 48 continental U.S. states will be shipped UPS Ground at no charge. However, if 3-Day, 2-Day, or Next Day Air is indicated, or if the warranty repair is being sent outside of the 48 continental states, current UPS rates will be charged. *All International repairs are shipped Air-Mail.*

**Units Not Covered Under Warranty:** Current UPS shipping fees will be added to the service cost.

## 5 PAYMENT INFORMATION

Select payment method†.

    COD Cash  COD Check

†If COD is indicated, UPS COD fees will be added to shipping charges. If a payment method is not indicated (or if charge card/check is not approved) unit will be shipped back COD Cash.

**PAYMENT BY CREDIT CARD:**

Credit Card# \_\_\_\_\_

Card Holder's Name \_\_\_\_\_

Exp. Date \_\_\_\_\_ Signature \_\_\_\_\_

**PAYMENT BY COD CHECK (info. from your check):**

Name \_\_\_\_\_ Phone \_\_\_\_\_

Address \_\_\_\_\_ City \_\_\_\_\_

State \_\_\_\_\_ Zip \_\_\_\_\_ D.L. # \_\_\_\_\_

## 6 AUTHORIZATION TO SERVICE UNIT

I authorize Novak Electronics, Inc. to service the enclosed DataLink as I have indicated.

Signature \_\_\_\_\_ Date \_\_\_\_\_

Pricing and policy information subject to change without notice.

---

## TROUBLE-SHOOTING GUIDE

*Experiencing problems?* Review instructions & check the following:

- Must turn on transmitter and Cyclone, then connect DataLink.
- RJ11 cable must have six conductor wires.
- POWER LED does not illuminate when DataLink switched ON:  
–Replace the 9 volt battery.
- Transmitting Error during Upload or Download:  
–Check D•LINK connection and alignment of pins.  
–Check condition of D•LINK wires and pins.  
–Make sure DataLink socket on speed control is clean.
- Unknown File or Not Found computer response:  
–Make sure batch file RUN commands are for communications port that DB9/RJ11 adaptor is connected (*If connected to Com1 port you must use RUN1 batch file / RUN2 if connected to Com2*).
- Installation Problems:  
–Check that the diskette has not been inadvertently erased by performing a contents listing (DIR A:).  
–Remove entire Novak directory before re-installing software.  
–Refer to the readme file on the diskette.

---

## SOFTWARE LICENSE & PRODUCT WARRANTY

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**DATA LINK WARRANTY:** Novak Electronics, Inc. guarantees the DataLink to be free from defects in materials and workmanship for a period of 90 days from original date of purchase (*verified by dated, itemized receipt*). Warranty does not cover incorrect installation; components worn by use; splices to D•LINK harness or RJ11 cable; damage from excessive force using One-Touch button, Minimum Brake pot, or DataLink's ON/OFF switch; or disassembling case or tampering with electronics; allowing water, moisture, or any foreign materials to enter case or get onto PC board. *We reserve the right to modify warranty provisions without notice.*

**LIMITATION OF LIABILITY:** Because Novak Electronics, Inc. has no control over connection and use Profile Software and DataLink, no liability may be assumed nor will be accepted for damage resulting from use of product. Every DataLink is thoroughly tested before leaving our facility and is, therefore, considered operational. By the act of installing/connecting/operating Profile Software and DataLink, user accepts all resulting liability. Under no circumstances, including negligence, shall Novak Electronics be liable for any incidental, special, or consequential damages that result from use or inability to use Profile Software or DataLink. Novak's total liability for all damages and losses shall not exceed the product's original cost.





# INDEX

## A

Acquiring Default Parameters .....	14
Adjustable Parameters .....	3, 4, 5, 6, 7, 8, 9, 10

## B

Battery Installation .....	11
Brake PWM Frequency .....	7, 16

## C

Customer Service .....	21
------------------------	----

## D

D•LINK Harness .....	15
D•LINK Harness—Trouble-Shooting .....	23
DataLink .....	11, 15
DataLink Installation. <i>See</i> Hardware Installation	
DB9/RJ11 Adaptor .....	11
Deadband .....	4, 16
Download Parameters .....	18
Drag Brake Frequency .....	16
Drag Brake Toggle .....	9
Drag Brake Value .....	8, 16
Drag Racing—Trigger Throw .....	17
Drive PWM Frequency .....	5, 16

## E

Editing Parameters .....	16, 17
--------------------------	--------

## F

Floppy Disk—Running From .....	12
Full Brake .....	3, 17
Full Brake—Monitoring .....	20
Full Drive .....	3, 17
Full Drive—Monitoring .....	20

## H

Hard Drive—Installing To .....	13
Hard drive—Requirements .....	12
Hardware Installation .....	11

## M

Minimum Brake .....	6
Minimum Drive .....	6, 16
Monitoring Transmitter Trigger .....	20
MS® DOS .....	13

# INDEX

## N

Neutral .....	3, 17
Neutral—Monitoring .....	20
Notes .....	28

## O

Operating System—Requirements .....	12
-------------------------------------	----

## P

Parameters—Downloading .....	18
Parameters—Storing Profiles .....	19
Parameters—Uploading/Defaults .....	15
Profiles—Owner's Data .....	24, 25
Profiles—Retrieving Stored .....	19
Profiles—Sample .....	20
Profiles—Storing .....	19

## R

Read Parameters From Disk .....	19
RJ11 Cable—Trouble-Shooting .....	23

## S

Sample Profile Data .....	20
Save Parameters .....	19
Serial Port .....	11
Service Procedures .....	21
Service Return Sheet .....	22
Software License .....	23
System Requirements .....	12

## T

Transmitter Throw .....	17
Transmitter Throw—Determining .....	20
Transmitter—Trigger Monitoring .....	20
Trouble-Shooting Guide .....	23

## U

Uploading Parameters .....	15
----------------------------	----

## W

Warranty .....	23
Warranty Work .....	21
Windows®—3.1 & 95 .....	13

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# NOTES

A large area of the page is filled with horizontal dotted lines, providing a template for handwritten notes.

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