

Dear NFL Challenge User,

Congratulations on purchasing NFL Challenge!

More than 10 man-years were spent in the making of NFL Challenge. The program itself is written primarily in the C programming language with some parts written in assembly language. Totally, we created more than 30,000 lines of source code. Some of those lines of code were used to test and fine tune the simulation model.

Prior to writing any source code, we spent months learning football, gathering statistics, and designing the simulation model.

The model actually consists of two parts: Part 1, the macro model, which takes into account various statistical averages over the entire NFL for at least one full season (such as the frequency of injuries); and Part 2, the micro model, which calculates the lanes of activity and the player matchups (which are affected by substitutions) to help determine the outcome for a play.

We worked with several NFL experts to create real plays for both the offensive and defensive playbooks. NFL Properties' Creative Services Division made significant contributions in laying out all of the user documentation.

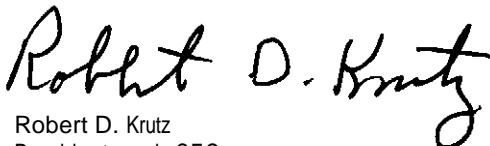
The program was designed so that you can get into it as deeply as you like. You can stay on the surface and run the Self-Running Simulation, or you can dig down into the individual player statistics and modify them to your best estimates. You can randomly select plays, or you can study the playbooks and script your game plan.

For your convenience, we chose not to copyprotect NFL Challenge. Take time to read the legal agreement in this User's Guide. Notice that we encourage you to make a back-up copy of each of the disks.

On behalf of the staff at XOR Corporation, thanks for your support in purchasing our products.

Enjoy NFL Challenge!

Sincerely,



Robert D. Krutz
President and CEO

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PART I – Introduction

This User's Guide is designed to help you begin enjoying NFL Challenge as quickly as possible. Although we hope that you take the time to explore the many features that make NFL Challenge powerful and versatile, we know that the best way we can convince you to do so is to get you playing NFL Challenge. Part II of this guide does exactly that-it goes through NFL Challenge step by step, providing you with just what you need to know to play.

If you choose to wait until later to step-through the tutorial, you can still run the program as a self-running simulation. You will need to read at *least* the rest of this section and steps 1 through 5 of Part II as a minimum.

NFL Challenge is full of features which are not absolutely necessary to know to play the game, but which you might find interesting nonetheless. These features are described in Part III of this guide.

In order to play and understand NFL Challenge properly, it is necessary to make use of the Offensive and Defensive Playbooks provided. The playbooks describe every offensive or defensive play you can call in NFL Challenge.

The Appendix of this guide describes how you can use a typical word processing program (not provided) to modify the team rosters used by NFL Challenge. With these instructions, if you are motivated, you can update the rosters as an NFL season progresses.

In addition to the Offensive Playbook, the Defensive Playbook, and this guide, NFL Challenge includes another valuable book, *The NFL Illustrated Playbook*. *The NFL Illustrated Playbook* is an in-depth discussion of modern football strategy that covers many of the concepts which appear both in NFL Challenge and in the real NFL. *The NFL Illustrated Playbook* is both an effective learning tool for football beginners and an invaluable reference for those who are more advanced.

BEFORE YOU START,.

If every computer system were the same, the job of explaining how to run a program would be a lot simpler. Computer systems come in all shapes and sizes, however, and before we can show you how to run NFL Challenge we need to address the question of hardware.

The version of NFL Challenge which you have is the IBM^{*} PC version, which can operate on most popular configurations of either the IBM PC, PC/XT, PC/AT, and many IBM-compatible computers such as the COMPAQ[†]. Two things, however, are absolutely necessary to run this program:

1. At least one floppy disk drive
2. At least 256K bytes of internal memory.

For optimal results, your computer system should have the following (although it is not absolutely necessary):

3. Two floppy disk drives or one floppy and one hard disk drive
4. Color graphics adapter and RGB color monitor (either standard or enhanced).

If you don't have two disk drives, you can run the program perfectly well, but you will have to do some disk swapping. NFL Challenge uses two floppy diskettes, labeled "Program Disk" and "Team Disk." Most of the time the Program Disk needs to be in the drive, and the program will tell you when you must replace it with the Team Disk.

If you don't have a color graphics adapter and monitor, you can still run the program, but you won't see quite everything you otherwise would. NFL Challenge uses color coding in various ways as an aid to the user, but you can play the game without it. One feature will be totally absent if you run NFL Challenge on a monochrome system: the animated depiction of the plays. The simulation itself (that is, the yards gained or lost and all the other results of the play) will run just the same, and the results will be reported on the screen. But only on systems with graphics will you see the individual players line up on the field and run through the play.

Some computers, such as the COMPAQ, have a monochrome screen but can display graphics anyway. If you have such a system, you will be able to see the play animation.

^{*}IBM is a registered trademark of International Business Machines Corporation.

[†]COMPAQ is a registered trademark of COMPAQ Computer Corporation.

PART II — Step-Through Installation and Tutorial

INSTALLATION

STEP 1: Preparation

NFL Challenge comes on two floppy diskettes, the Program Disk and the Team Disk. These diskettes are not copyprotected, and we authorize you to make a copy of each diskette for backup purposes. We have included an extra label for each backup diskette for this purpose. We also authorize you to copy the contents of either or both diskettes onto a hard disk if you have one. Doing so is not necessary, but will slightly reduce the time required to load and run the program.

Without any further pregame instructions, let's get NFL Challenge up and running. First you must turn on your computer with DOS. Then make sure you have both NFL Challenge diskettes—the Program Disk and the Team Disk. The next step depends on the kind of disk drives you have.

ONE FLOPPY DISK DRIVE: Place the Program Disk in the drive.

TWO FLOPPY DISK DRIVES: Place the Program Disk in drive A and the Team Disk in drive B.

ONE FLOPPY AND ONE HARD DISK DRIVE: If you have enough room, copy all the files on each diskette onto your hard disk. If you only have enough room to store the files from one diskette, copy the files from the Program Disk onto your hard disk, and place the Team Disk in the floppy drive.

STEP 2: Starting the program for the first time

Type NFL and press enter. The screen will clear. You will see a little opening display, and then, you will see a window appear on the screen labeled CONFIGURATION. The program will now ask you a few questions about your system.

STEP 3: Configuration

The first question is about your disk drives. NFL Challenge knows where the Program Disk is (since that is where it just came from), but you must tell it where to find the Team Disk. If you have two floppy disk drives and the Team Disk is in drive B, select "drive B" on the menu. If you have a one drive system, the Team Disk will have to share drive A with the Program Disk, so select "drive A." If you have a floppy disk drive and a hard disk drive, and you followed the instructions above and copied the contents of the Team Disk to your hard disk, select "drive C."

The next two questions concern what kind of graphics capability you have, and how powerful your computer is (for timing purposes). Simply select the correct descriptions.

Once you have answered the configuration questions, the program will record your answers in a special file. Every time you run NFL Challenge

from now on, the program will read this file instead of bothering you with the same questions again. But if you ever change your computer system configuration, all you have to do is erase this special file from the Program Disk. The file is called CONFIG.NFL, and deleting it won't hurt anything; the program will simply ask you the configuration questions the next time you run it and create the file again.

BEGINNING A GAME

Type: **NFL** and then press the Enter key [↵], if you haven't already, to start the program.

STEP 4: Choosing teams

Now the program will ask you to choose the two football teams you want in the game. All the teams in the league will be on the screen, organized by conference and division. You will also notice a little triangle next to the first team. This is the cursor, and you can move it from team to team using the arrow keys. Use the up and down [↑↓] arrow keys to go up and down the list of teams in either conference; use the Page Up [PgUp] and Page Down [PgDn] keys to move from division to division; and use the right and left arrow keys to switch from conference to conference.

First select the home team by positioning the cursor next to a team and pressing the enter key. Next select the visiting team in the same way. You can select any pair of teams you want.

If you make a mistake or change your mind, just hit the escape key; the selection process will start over again from the beginning.

STEP 5: Choosing coaches and keypads

After you have selected the two teams for the game, you must choose a coach and keypad for each team. First let's explain what this means.

One way to play NFL Challenge is with two people, one person being the coach of one team and the other person being the coach of the other team. But you also can play by yourself if you want to, in which case you are the coach of one team and the computer is the coach of the other team. You can even let the computer control both teams, in which case you are simply spectator. Another way to describe these options is this: each team has a coach, and each coach can be either a human or the computer.

Each team also has a keypad. There are two keypads which you can use to select plays and make other coaching decisions. The ten function keys on the left hand side of the keyboard make up the left keypad; the ten keys of the numeric keypad on the right hand side of the keyboard make up the right keypad. In every game, one team uses one keypad and the other team uses the other keypad. Even computer coaches must have a keypad assigned to them, since NFL Challenge lets you switch between a computer coach and a human coach at any point in the game.

The keypad (right or left) also determines on which side of the screen (right or left) the program will display certain information that pertains to a particular team, such as lists of plays to select from, rosters, injuries, and so on.

Now that you understand the choices, select a "human" or "computer" coach for the home team by pressing [H] or [C]. Then select the keypad for the home team by pressing [R] for the right or [L] for the left. The visiting team automatically gets the other keypad. Finally, select the coach for the visiting team by pressing [H] or [C].

We recommend that the first time through you select a human coach for at least one of the teams. Otherwise, the computer will do everything and you won't have a chance to learn how to play the game yourself! If on the other hand, you do not want to learn how to play the game yourself right now, you can select the computer to be the coach for both teams, put down this guide, and enjoy the show.

If you make a mistake and want to start over, just press the escape key.

SELF-RUNNING SIMULATION

As noted above, if you choose to have the computer coach both teams, you will become a spectator of the game. This is the SELF-RUNNING SIMULATION.

To EXIT from the simulation, press the [X] key.

TUTORIAL A.

STEP 6: The coin toss

As in the NFL, before every football game there is a coin toss. So the program now will ask the coach of the visiting team to call the toss. If you (or another human) are the coach, you must press either [H] for heads or [T] for tails. If the computer is the coach, it will call the toss automatically.

Next you will see a simulated coin flip which will end up either heads or tails. The team winning the toss now elects whether to kick or receive. A human coach must make this decision by pressing [K] for kick or [R] for receive. If the coach is the computer, the choice will be made automatically and will be, naturally, to receive.

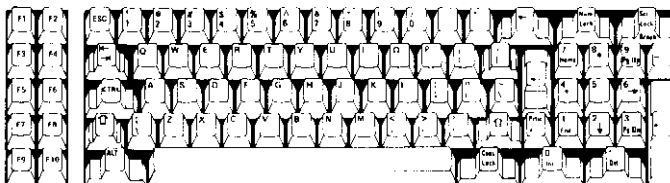
STEP 7: While we're waiting

At this point in the simulation, the program has to load a large amount of data, such as play lists, team rosters, statistical information, and so on. This takes a short while. But we can take advantage of the pause in the action by explaining some things that will come in handy very soon.

A FEW IMPORTANT KEYS TO KNOW ABOUT:

Many decisions in the game are made by choosing options from menus. You can select such options using your keypad. We talked a bit about the keypads in step 5 above, but there is more you must know. Refer to the keyboard diagrams (Figure 1.) when reading the next few paragraphs.

Fig. 1: KEYPADS — PC and PC/XT



Remember that there are two keypads, the right and the left, and that each keypad includes ten “number” keys. For the left keypad, the number keys are the ten function keys; for the right keypad, these keys are the numbered keys of the numeric keypad (which on the IBM PC and most compatibles also double as the cursor control key?). Any time you see a menu appear that has options with numbers next to them, you can select an option with the number keys of your keypad. No menu ever has more than ten options.

In addition to the number keys, we will be referring to the “cancel key” and the “enter key” for each keypad. The cancel key allows you to change your mind in many cases after you have made a decision. You also must use it to go back to the game from certain activities such as looking over your roster and making substitutions. The enter key is used primarily for substitutions, which we will discuss later.

For an IBM PC, PC/XT, and most compatibles, the cancel and enter keys are as follows. For the left keypad, the cancel key is the escape key (the one marked [Esc]) and the enter key is the tab key (marked [↵]). For the right keypad, the cancel key is the grey minus key on the right-hand edge of the keyboard (marked [-]), and the enter key is (not surprisingly) the Enter key (marked [↵]).

For an IBM PC/AT there is a minor difference: the cancel key for the left keypad is the [Q] key next to the tab key.

Each keypad also has cursor control keys for use in viewing rosters. For the left keypad, the top six function keys double as cursor control keys (see Fig. 1). For the right keypad, the cursor control keys are simply the normal cursor control keys which share the numeric keypad with the number keys. You might remember the left keypad cursor control keys better if you relate them to the standard (right keypad) cursor control keys:

Imagine that the top six function keys ([F1] through [F6]) correspond to the right two columns of the cursor control keys. Thus [F1] matches with [↑], [F4] matches with [→], [F5] matches with [↓], and [F2] and [F6] match with [PgUp] and [PgDn] respectively. Finally imagine the [←] key moved one space to the right; it then matches neatly with [F3].

There is one more important key belonging to each keypad, called the coaching key. This is the key each player must use to make coaching decisions such as calling time outs and making substitutions. The coaching key for the left keypad is the backslash [\] next to the shift key on the left; for the left keypad on the PC/AT it is the [Z] key; and for the right keypad it is the normal slash [/] next to the shift key on the right.

Finally, there are **two** more things which are good to know how to do in NFL Challenge as in any program.

To EXIT the program in the middle of the game, press the [X] key.

To FREEZE the game at any point, press the [F] key. Then just press any other key to start the action again.

The program should be ready by now, so let's continue with the game

STEP 8: Just before kickoff

When the program has loaded all its data and is ready to continue, you will see several things appear on the screen. At the top you will see the scoreboard, which throughout the game will display all important status information, such as game time, the quarter, the score, time outs remaining, the line of scrimmage, the down, and yards to go.

After the start of the game, you will see the following: Next to the name of one of the teams there will be a little marker. This marker indicates which team has possession of the ball; at the start of the game, accordingly, it will be next to the kicking team. In the middle of the screen you will see a representation of the field. A triangle on the field will keep track of the location of the ball and the direction of play. Other markers directly above the field will indicate the yard line required for a first down.

Anything else you will see depends on the coaches. If you selected a human coach for either team, a special window, the "Coaching Menu," will appear on the side of the screen corresponding to that team's keypad. If both teams have human coaches, two coaching menus will appear.

The coaching menu allows you to look over your team's roster, and your opponent's roster as well. But you don't have to unless you want to, and rather than discuss the rosters yet, we will just go ahead and start the game. If you really want to look at the rosters now, just skip ahead to step 15 to find out how they work. To return to this point from your roster, press your cancel key.

To start the game, select option 3, "Start game," on your keypad. (if both coaches are human, select option 3 on both keypads.)

STEP 9: Opening kickoff

The opening kickoff brings the first play selection menu of the game to the screen. It is a simple menu with three choices — Normal Kick, Squib Kick, and Onside Kick. As soon as this menu appears, the thirty-second clock, located at the top right corner of the screen, will begin to tick. Now is a good time to introduce a very important feature for beginners (not football beginners, NFL Challenge beginners). It is called Learn mode, and you should activate it immediately by pressing the **[L]** key. You will hear a “beep” and see the message “Enter Learn mode” appear at the bottom of the screen.

Learn mode doesn't cause anything to happen, rather it prevents something from happening, namely delay of game penalties. Normally, in NFL Challenge, as in real football, if you let the thirty-second clock tick down to zero, you are assessed a penalty for delay of game. Learn mode restrains the referee and allows you to take as long as you want to select a play. This will give you a chance to figure out what's going on and us a chance to explain it to you.

Now back to the kickoff menu. If the kicking team is coached by the computer, it will already have made its selection by now. If a human is the coach, make a selection using the proper keypad. You will know when the selection is made: you will hear a sound indicating that the play has been selected, and you will see a message appear directly below the field stating “Kickoff,” “Squib kick,” or “Onside kick,” depending on which kickoff play was selected. Then you will see the little triangle representing the ball move downfield toward the receiving team's end zone. Once the ball stops, a message at the bottom will indicate the exact yardage of the kickoff. The ball will then turn around and move upfield, representing the return. At the same time, the possession marker which was next to the name of the kicking team on the scoreboard at the top of the screen will move to the other team, indicating a change of possession. A message underneath the field will indicate the yardage gained on the return.

The above series of events is not predetermined. A lot of things can happen on a kickoff, such as a touchback, or a penalty, or even a fumble. Whatever happens, though, will be clearly stated.

(If a penalty occurs, you might have to kick over, in which case you will again be presented with the kickoff menu. Another thing that happens with penalties in some cases is that you will see a menu asking you if you want to accept or decline the penalty. If so, make your choice using your keypad.)

After the kickoff and return have finished, the screen will be prepared for the first play from scrimmage. The scoreboard will indicate the down (first) and the yard line. Directly above the field, the first down markers will appear.

STEP 10: Play selection

Now begins the process of offensive and defensive play selection. This differs from kickoff play selection in a couple of ways. For one thing, two menus will appear, one for the defense and one for the offense. For another

thing, the options on these menus do not represent plays, but rather groups of plays. It will require, therefore, two selections by each team to choose a play.

Try selecting an option on the play selection menu for your team. You will see another menu appear, above the first menu. The options on this menu represent individual plays. The little dots after some of the play names on the offensive side indicate pass plays (the rest are runs).

Before you select a play, we want to show you something important -how to change your mind. Press the cancel key for your keypad (i.e., right side use [-]; left side use [Esc], or [Q] for the PC/AT-for more information about the cancel keys, refer back to step 7). The top menu at your side will disappear. You can now select any play group, even the same one over again, as you wish. You can change your mind like this as much as you want, up until the point that both teams have selected a play. The cancel key can be used not only to take back a play group selection, but a specific play as well, provided the other coach has not selected his play yet.

Normally, the thirty-second clock, ticking away in the upper right corner, makes it necessary to select a play quickly. But since we are in Learn mode, we have the luxury of taking our time. (If you hear the referee's whistle and see a message indicating a delay of game penalty, it means that you are not in Learn mode after all. In that case, just press the [L] key.)

In normal play (that is, not in Learn mode), if the offensive coach fails to select a play before the thirty-second clock runs out, his team is assessed a delay of game penalty. If the defensive coach fails to make a selection, no penalty is called, because in real football the defense can get caught unprepared. What happens in NFL Challenge is that whatever defensive play was called on the last play is automatically selected again for the defense by the program.

Go ahead now and select a play. If you are the offensive coach, for the moment do not select a play from Group 6, which is labeled "Special Group." We will describe this group a little later, but anyway it is useful only in very special circumstances. Any other group will work fine for our present purpose.

Once you have picked both a group and a play within a group, a message will appear below the bottom menu indicating that a play has been selected. However, until both coaches have selected a play, there will be no indication as to which particular play has been selected. Uncertainty is an important aspect of football strategy.

Your opponent can clearly see, however, the play group which your play belongs to. This is realistic, because the play groups correspond largely to formations, and in real football each team has a chance to see the other team's formation before the ball is snapped. Every group, moreover, contains a significant variety of plays, so knowing just the play group is not necessarily very helpful. For those who want complete uncertainty, NFL Challenge has an option allowing complete suppression of play selection windows, which we describe in Part III of this guide.

STEP 11: Play results

Let's see what happens after both coaches have made their play selections. First, you will see the names of the selected plays in the menus on each side become highlighted. These play names also appear directly underneath the field in the play result message area. Then you will hear the same sort of sound you heard at the kickoff, indicating that the play is about to be simulated. What you see next depends on whether you have a graphics display or not.

WITH GRAPHICS

If you have graphics, the screen will clear and a close-up of part of the field will appear. You will see the offense represented by O's and the defense represented by X's, the home team in green and the visiting team in red. The field will be marked in yellow — hashmarks every yard, solid lines every five yards, and numbers every ten yards. The ball, also yellow, will be positioned at the line of scrimmage. You won't be able to see the sidelines yet, but they are just off either edge of the screen. One other marker will probably also be in view—a dotted line indicating the yard line which the offense must get to for a first down. (If the offense needs fifteen or more yards for a first, the first down line will be off the screen.)

The offensive team will breakout of its huddle and line up in its formation. After a moment, the ball will be snapped and the play will come to life. You will see the X's and the O's block and run and cover and tackle—depending, of course, on the plays that were called as well as all the other factors that are part of the simulation.

If the play goes far enough downfield or towards the sideline, the view will shift to follow the ball. Eventually the play will end, either with a tackle, an incomplete pass, the ball carrier going out of bounds, or the ball carrier scoring.

After the play has run its course, you will see it happen over again exactly as before, except in slow motion. This is the instant replay. If you don't want to see the instant replay, just press your cancel key.

Following the graphic animation of the play, the screen will clear, and the main screen with the scoreboard and the whole field will reappear.

WITHOUT GRAPHICS

If you do not have a graphics display, you will see the triangle representing the ball on the screen move to the right or the left (i.e., up or down the field) according to the results of the play. The messages described below will appear at the same time.

With or without graphics, the exact results of the play will then be reported in the results message area directly underneath the field. The message will include information such as what kind of play was run (run or pass), who carried the ball, how many yards were gained, who made the tackle, and any other important things that may have happened, such as a fumble, an interception, a touchdown, and so on.

NFL Challenge also has special graphics celebrations for scoring plays and turnovers.

Certain other things may happen, too, if an injury or a penalty occurred on the play. We will discuss these very shortly.

After all the play results have been reported, the scoreboard display will be updated to reflect the new yard line, down, time on the clock, and anything else that may have changed. The play selection process then begins again.

STEP 12: Fourth-Down and Special Group plays

As the game continues, sooner or later you will be faced with fourth down. At that point, you must make a decision: should you punt, try a field goal, or go for it? These options are presented to the offensive coach on fourth down in a menu that comes up instead of the play selection menus. If the offensive coach elects to go for it, the normal play group menu? comes up and play selection proceeds as on any other down. If the offensive coach chooses either to punt or attempt a field goal, the chosen action occurs immediately. No further selection is required by the offensive coach, and no selection at all is required by the defensive coach.

For punts and field goals, as well as kickoffs and other special teams plays, the program provides no graphic animation. You will see the ball marker move up or down the field to represent both kicks and returns. You also will see results reported in the message area underneath the field as for any play.

Punts and field goals are accessible on any down. The last option on the offensive play group menu, labeled "Special Group," puts up a menu allowing the offensive coach to punt or try a field goal on any down. In practice, a field goal attempt before fourth down is likely to be desirable only at the very end of the game or the half, when enough time remains for only one more play. Punts before fourth down are unlikely to be useful ever, but the rules of football allow it, so NFL Challenge does as well.

Also in the Special Group are two other plays intended for use at the end of the game or half. These are called "QB Throws Ball Away" and "QB Downs Ball." Throw Away is a play which stops the clock on an intentionally incomplete pass. QB Downs Ball calls for the quarterback to fall on the ball immediately after the snap, minimizing the chance of a fumble and keeping the clock running while losing a yard. Neither of these plays are depicted by the animated graphics.

STEP 13: Penalties and injuries

Two types of penalties exist in football: a penalty that occurs before a play, which is always charged against the team that commits it, and a penalty that occurs during a play, which is charged only if the other team accepts the penalty.

When pre-play penalties occur, a whistle blows and a window with all the penalty information appears. The yardage is walked off and the play selection process starts over again. When penalties occur during play, the program first shows the play and reports the results, then blows the whistle and announces the penalty. If the non-offending team has a human coach, a window appears with two options: accept or decline. If the coach accepts the penalty, the yards are walked off as indicated in the penalty window and the play results described directly below the field are discarded. If the coach declines the penalty, the play results become official.

On most penalties, the down remains the same. When a penalty involves an automatic first down or a loss of down, the message in the penalty window says so.

Another type of misfortune that occurs in NFL Challenge as well as in real football is injury. When an injury occurs, a special window appears, immediately after the play, identifying the injured player and describing the degree of injury. The degree of injury ranges from "Shaken Up," causing a player to miss one to five minutes, to "Serious," causing a player to miss the rest of the game. "Moderate" injuries put a player out for the half; if an injury of this sort occurs in the first half, the injured player will be able to return for the second half. The injury window will either state the approximate amount of time that the player will be out, or say that the player is out of the half, or that the player is out of the game. An exact length of time before an injured player can return is not given, because such a degree of certainty would be unrealistic.

Injured players, of course, must be substituted for. In NFL Challenge, as a default, injury substitutions are handled by the computer, which will automatically put in the most talented player of the most appropriate general position who does not already have a starting assignment. If you want to handle these substitutions yourself, you must enter Manual substitution mode by pressing **[M]** at any point in the game. Manual injury substitution is described in step 18 below.

When a player who was injured is able to return to the game, the injury window appears on the screen stating that the player now is available. If the game is in Manual substitution mode, this message is all you will see. If the game, however, is in the default state (i.e., not in Manual substitution mode), the computer will put the original player back in the game if the player returning from the injury is in fact more talented than the player now playing the position. If the substitution occurs, you will see it on the screen.

STEP 14: Coaching options

There is more to being a coach than calling plays. At least as important, for instance, is deciding who on the team will play in the game. A human coach in NFL Challenge has access to a special menu called the Coaching Menu, which allows him to look over his roster and make substitutions, call time outs, and even look over the opponent's roster (without, of course, making substitutions). In addition, the Coaching Menu has an option called "two-minute mode," which we will describe in a moment.

There actually are two slightly different Coaching Menus: one version that automatically appears immediately before the opening kickoff of each half, and another version that a coach can call up during the game as desired. The pregame/halftime Coaching Menu does not contain the timeout and two-minute mode options, which only have meaning during the game.

As we mentioned in step 8, each keypad has a coaching key. This is the key which brings up the Coaching Menu. The coaching key for the right keypad, as you may recall, is [J] and for the left keypad is [N] (except on the IBM PC/AT, in which case it is [Z]). The cancel key for each keypad removes the Coaching Menu.

Take a look at your Coaching Menu now. Just after the program puts up the play selection menus, press the coaching key for your keypad. A menu similar to the one you saw just before the game will appear on your side of the screen. The four options listed will be "Roster/Substitution," "Two Minute Mode," "Time Out," and "Opponent's Roster." In the next step we will examine rosters and substitutions; right now we want to discuss two of the other options.

Try selecting option 3. Time Out. If you have at least one time out left, the main clock and the thirty-second clock will both stop, and a window will appear announcing the time out. Also, the number of time outs listed on the scoreboard for your team will decrease by one.

The time out remains in effect until both teams have selected their next plays. You can use a time out to make substitutions, go over the play groups, simply stop the clock, or all of the above. Each team is allotted three time outs in each half of the game (and in the overtime period as well, should the second half end in a tie).

Now select option 2, Two-Minute Mode. A window will appear on your side of the screen with the message "Enter Two-Minute Mode." If your team has the ball, the possession marker next to your team's name on the scoreboard will begin to blink. This is the signal that a team is in two-minute mode.

Two-minute mode only affects the offense. In the NFL it is sometimes known as the "hurry up" offense. When a team is in two-minute mode, all ball carriers on that team will make a special effort to get out of bounds and stop the clock. The quarterback will take more chances with his passes, resulting in longer completions but with a higher risk of interception.

A computer coach will put its team into two-minute mode as called for by the time in the game and the score, which could be at the two-minute

warning, before it, after it, or never. Similarly, a human coach can do the same. No message will appear for the computer coach, but the possession marker on the scoreboard will begin to blink.

Press the key for two-minute mode again. This time a window will appear stating "Exit Two-Minute Mode." You can enter and exit two-minute mode as often and at any time you wish.

TUTORIAL B. (OPTIONAL)

Note: Steps 15,16,17, and 18 are for more advanced players. Steps 19 and 20 are recommended for everyone.

STEP 15: Rosters

Let's take a look now at the rosters.

With the coaching menu for your team up, press your 1 key ([F1] for the left keypad, [1] on the numeric keypad for the right keypad). Your half of the screen will fill up with a window displaying your roster.

Next to the first player will be a cursor (a highlighted triangle). You can move this cursor up or down using the cursor control keys for your keypad. (Refer to step 7, if necessary, to review what your cursor control keys are.) The screen is not big enough to display the entire roster at once, so to see the rest of your team either continue pressing your cursor down key, or press your page down key. Your cursor up and page up keys, similarly, can bring you back to the beginning.

Each line of data in the roster window represents one player on your team. The first number on each line is that player's jersey number. If you have a color display, the lines for the players will be alternating green and yellow, to make it easier to read the data.

If any players on your team are injured, you will see them highlighted on your roster. (On a color system, they will be highlighted white.)

Besides each player's jersey number, the roster window displays general position, skill numbers, and starting assignment, if any. To see more information about the players, press your right cursor key. The skill numbers will disappear, and in their place you will see each player's height, weight, NFL experience, and speed in the 40-yard dash. (Some players whose speeds are of less importance, such as linemen, will not have speed numbers listed on the roster.) Pressing your left cursor key will bring back the skill numbers. The skill numbers are the most important values differentiating players, but in certain cases other factors play a role, especially weight (for linemen) and speed (for ball carriers).

You can view your opponent's roster, as well. Press your cancel key to remove your roster (use [-] for the right; use [Esc] for the left; use [Q] for the IBM-PC/AT left keypad). You will see your Coaching Menu again. Now, if you select option 4, the roster for the other team will appear on your side of the screen.

Most of the information displayed in the roster window is self-explanatory, but we should say a little more about skill numbers and position labels before we go on.

SKILL NUMBERS

NFL Challenge considers several different categories of football skills in determining the abilities of a player. These are running, receiving, blocking, and passing (for quarterbacks) for offensive players; defense against runners, receivers, and blockers for defensive players; and kicking for punters and place kickers. These are distilled into five categories in the roster window:

Label Skill

Run	Running skill or defensive skill against runners
Rcv	Receiving skill or defensive skill against receivers
Blk	Blocking skill or defensive skill against blockers
Pss	Passing skill
Kck	Kicking skill

Players have skill numbers only in those categories required by the positions they play on their team. The skill numbers range from 51 to 99 (since every player in the NFL is capable and no player is perfect). A player's skill in areas outside of his expertise is arbitrarily considered to be 50, represented by ".." in the roster window.

POSITION LABELS

There are two sets of position labels used in NFL Challenge: general position (on the left side of the roster window, next to the jersey number) and starting position (on the right side of the roster window).

Every player on a team has a general position. A player's general position represents the kinds of skills he has, and therefore doesn't change in the course of a game.

Some, but not all, players on a team will have specific assignments in a game. These assignments are called starting positions and can change during the game through substitution. Starting positions fall into three categories: offense, defense, and special teams. In the roster window, offensive and defensive starting positions are in the column labeled "Strt," and special teams starting positions are in the next column over, labeled "ST."

For the most part, standard abbreviations are used for both the general and starting position labels. Some labels may require an explanation: Table 1 lists every position label you will see in the game.

You will notice that there are more than just eleven starting position labels for both offense and defense; several additional positions are necessary because of special formations, such as second and third tight ends and nickel and dime backs. The way the program determines which eleven players will actually be in the game on a given play is the subject of the following step.

TABLE 1: POSITION LABELS

GENERAL POSITION LABELS

C	Center
OL	Offensive lineman
QB	Quarterback
RB	Running back
TE	Tight end
WR	Wide receiver
DB	Defensive back
DL	Defensive lineman
LB	Linebacker
K	Kicker
P	Punter

STARTING POSITION LABELS

Only players of the general positions listed for a starting position can play that position. Where more than one general position is listed, the order shown is the order the program considers when performing injury substitutions.

OFFENSE

(Labels are red on a color monitor, highlighted on monochrome)

LT	Left tackle	}	can be played by OL or C
LG	Left guard		
RG	Right guard	}	can be played by OL or C
RT	Right tackle		
C	Center		must be played by C
TE	Tight end	}	can be played by TE, WR, or RB
TE2	Second tight end		
TE3	Third tight end		
FL	Flanker	}	can be played by WR, TE, or RB
SE	Split end		
WR3	Third wide receiver	}	can be played by RB, WR, or TE
FB	Fullback		
HB	Halfback		must be played by QB
QB	Quarterback		

TABLE 1 (Continued on page 20)

TABLE 1 (Continued)

DEFENSE

(Labels are light blue on a color monitor, unhighlighted on monochrome)

LE	Left end	
LDT	Left tackle	
L/NT	Left tackle on 4-3 plays, nose tackle on 3-4 plays	— must be played by DL
R/NT	Right tackle on 4-3 plays, nose tackle on 3-4 plays	
RDT	Right tackle	
RE	Right end	
LOLB	Left outside linebacker	— can be played by LB or DB
LILM	Left inside linebacker	
LMLB	Left inside LB on 3-4 plays, middle linebacker on 4-3 plays	
RMLB	Right inside LB on 3-4 plays, middle linebacker on 4-3 plays	
RILM	Right inside linebacker	
ROLB	Right outside linebacker	
LCB	Left cornerback	— can be played by DB or LB
RCB	Right cornerback	
SS	Strong safety	
FS	Free safety	
50	Nickel back	
100	Dime back	

Special teams

(Labels are purple on a color monitor, unhighlighted on monochrome)

K	Kicker	— can be played by K*
P	Punter	— can be played by P*
KR	Kick returner	— can be played by WR, RB, TE, or DB
PR	Punt returner	
AR**	All returns	

*A few other players on certain teams can play kicker or punter; these players are distinguished by having a skill number greater than 50 in the kicking category.

**The AR label appears when the PR and KR labels coincide.

STEP 16: Formations

In step 10 (play selection), we mentioned that the play groups in the lower play selection menus (such as Blue Group on offense or 4-3 Normal on defense) correspond to different formations. Now we will examine a little closer what formations do in NFL Challenge.

A formation means more than just how the players line up on the field. It also determines what types of players are required in the game. A 3-4 defense, for instance, uses three linemen and four linebackers, while a 4-3 defense uses four linemen and three linebackers.

Whenever you select a play, the program automatically puts in the game the proper players for the formation used by that play. Different formations use different combinations of players; this is why there are more than eleven starting positions for both offense and defense.

Table 2 lists exactly which players go in the game on each play. Besides keeping track of who is in the game at any point, you can use this table to help decide which formations make the most sense for your team, given its strengths and weaknesses.

As you look over your roster and make substitutions (which we discuss in the next step), it is important to relate the starting position assignments with the plays in the playbook. Some players will be in the game more often than others, depending on which plays you call.

The way the formations and position labels work in NFL Challenge, you can play an entire game without having to worry about substitutions. The program will always make sure you have the right players in the game. As you will see shortly, however, you still can decide for yourself who will be in the game, simply by moving the position labels around.

TABLE 2: ACTUAL POSITION ON EVERY PLAY

OFFENSE

All offensive plays use: LT, LG, C, RG, RT, TE, FB, QB

Remaining players depend on play selected:

All Blue Group, Red Group plays:

All Purple Group plays:

All White Group plays:

Yellow Group 1, 2, 3, 4, 6, 8:

Yellow Group 5, 7, 9, 10:

SE, FL, HB

SE, FL, TE2

TE2, TE3, HB

SE, FL, HB

SE, FL, WR3

TABLE 2 (Continued on page 22)

STEP 16: Formations

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Yellow Group 1, 2, 3, 4, 6, 8:

Yellow Group 5, 7, 9, 10:

SE, FL, HB

SE, FL, TE2

TE2, TE3, HB

SE, FL, HB

SE, FL, WR3

TABLE 2 (Continued on page 22)

TABLE 2 (Continued)**DEFENSE**

Outside defensive linemen (LE and RE) and outside linebackers (LOLB and RO LB) start on both 3-4 and 4-3 plays. The player who starts as nose tackle on 3-4 plays also plays one of the defensive tackle positions on 4-3 plays; likewise, the middle linebacker on 4-3 plays also plays one of the inside linebacker positions on 3-4 plays.

A team's nose tackle is designated on the roster as either L/NT or R/NT, depending on whether he plays left or right tackle on 4-3 plays. The middle linebacker is designated as either LMLB or RMLB, depending on whether he plays left or right inside linebacker on 3-4 plays. Different teams have different combinations of L/NT vs. R/NT and LMLB vs. RMLB.

A team that has an L/NT will also have an RDT, designating the right tackle on 4-3 plays, while a team that has an R/NT will also have an LDT, designating the left tackle on 4-3 plays. Similarly, a team with an LMLB will also have an RILB, while a team with an RMLB will also have an LILB, in either case designating the other inside linebacker on 3-4 plays.

Reflecting the possible variations, the label [NT] in the following table refers to either L/NT or R/NT, and [MLB] refers to either LMLB or RMLB, depending on the team. Also, [LDT], [RDT] refer either to LDT, R/NT or L/NT, RDT; and [LILB], [RILB] refer to either LILB, RMLB or LMLB, RILB.

All 3-4 Normal:	LE, [NT], RE, LOLB, [LILB], [RILB], RO LB, LCB, FS, SS, RCB
All 4-3 Normal:	LE, [LDT], [RDT], RE, LOLB, [MLB], RO LB, LCB, FS, SS, RCB
All Nickel Plays:	5c instead of RO LB
All Dime Plays:	5c instead of RO LB, and 10c instead of LOLB
All 4-4 Plays:	LE, [LDT], [RDT], RE, LLB, [LILB], [RILB], RO LB, LCB, SS, RCB

SPECIAL TEAMS

All Punts and Free Kicks:	P
All Kickoffs and Field Goals:	K
All Punt and Free Kick Returns:	PR (or AR)*
All Kick Returns:	KR (or AR)*

Other starters: See last paragraph of step 17.

*If the same player plays both PR and KR, the label AR is used.

STEP 17: Substitutions

Now that we understand what the actual positions really mean—that the player is in the game in certain formations—we can learn how to substitute. Making a substitution involves giving a player a slot in one or more formations. This is represented in NFL Challenge by putting a position label next to the player in the "Strt" or "ST" columns of the roster window.

Let's show you how it is done. Put your roster window up on the screen, if it is not up already. (If you don't remember how to bring up the roster window, take a look back at step 15.) Now move the cursor with the cursor up and down keys for your keypad, as we showed you before. Place it next to a player who has no starting assignment (make sure there are no labels in either the "Strt" column or the "ST" column).

Now press your enter key (the enter key for the right keypad, the tab key for the left keypad). The roster window will be replaced by another displaying only the players on your team who have the same general position. So if the player you select is a LB, for example, the window you see will have all the LB's on your team.

(If nothing happens, it is probably because you have your opponent's roster up on the screen rather than your own. Needless to say, you cannot make substitutions for the other team. To return to your own roster from viewing your opponent's roster, first press your cancel key to get you back to your Coaching Menu, and then select option 1 which is Roster/Substitution.)

The window you now see is the substitution window. Move the cursor using your cursor keys, and position it next to a player in the window who is a starter (who has a label in the Strt or ST columns). Press your enter key again. The starting position label will begin to blink. Try moving the cursor; the blinking label will follow. Position the cursor and the blinking label next to a non-starter (someone without a label in the Strt or ST columns) who is not injured (injured players are highlighted). Press the enter key once more. The position label will stop blinking, and will remain where it is. You have just performed a substitution.

Now press the page down key for your keypad ([PgDn] for the right keypad, [F6] for the left keypad). The players in the substitution window will be replaced with players of a different general position. If you keep pressing the page down key, you will eventually see every general position. Pressing the page up key takes you back in the other direction.

The page down and page up keys have a slightly modified effect in the middle of a substitution. If you press either key while a starting position label is blinking, the only substitution windows the program will go through are those for the general positions that are eligible for that starting position. Try it and see.

Note: You can swap two starters by moving one label on top of another and pressing your enter key.

If you position a blinking label next to a player, press your enter key. and hear a beep, it means one of two things: either the player you are trying to substitute is injured (in which case he will be highlighted), or he is not

eligible to play that position (he has the wrong general position).

To get out of the substitution window, press your cancel key. It will be replaced with the roster window displaying your entire team. Pressing the cancel key again, as you already know, will get you out of that.

Some players may have both a starting assignment on offense or defense and a starting assignment on special teams (i.e., labels in both the Strt column and the ST column). You will see that if you position the cursor at such a player for substitution and press the enter key, the starting offensive or defensive label will begin to blink. How do you get control over the special teams label? The answer is you just press the enter key again without moving the cursor. The first label will stop blinking, and the second label will start. At that point you can move the special teams label.

A word on special teams. In NFL Challenge, only four of the many special teams players are under the direct control of the coach: the punter, kicker, punt returner, and kick returner. The reason for this is not that the other special teams positions are not important (many games have been won because of special teams play), but to preserve realism. In real football, the demanding nature of practicing a position (among other factors) prevents most offensive or defensive starters from playing on the special teams as well. So rather than unfairly allow an NFL Challenge coach to assign his best players to special teams duty as well as starting offensive and defensive roles, the computer automatically handles special teams assignments fairly and intelligently for all teams. The special teams players are drawn from non-starters as well as infrequent starters such as third wide receivers and nickel backs on the basis of their skills. And they do make a difference—as you might find out if you lose one to injury.

STEP 18: Injury substitutions

Substitutions for injured players, as we explained in step 13, normally are performed by the computer. If, however, you enter Manual substitution mode (by pressing [M]), then the way injury substitutions are handled depends on the coach of the team suffering an injury. If the coach of a team is a computer, then injury substitutions for that team are handled exactly as before; but if the coach is human, then that coach must perform the substitution manually.

On the whole, you do injury substitutions the same way you do non-injury substitutions (see the previous step if you don't know yet how to perform a normal substitution). You see the substitution window appear, with the injured player's starting position label blinking and under your control with your cursor keys, just like normal substitutions. There are a few important differences, however.

The first difference is that you have no choice concerning whether and when you perform an injury substitution. When an injury occurs to your team, an official time out is called and the game does not resume until you have replaced the injured player. Your cancel key will not get you out of it.

Second, you cannot replace an injured player with a player who already has a starting assignment. The program will not allow it. You must pick a non-starter.

A final difference is that the injury substitution process ends as soon as you have selected someone. If you want to make other adjustments to your team, you must re-enter the substitution process through the normal channels (through the coaching menu and the roster window, as described in steps 14 and 15).

When a player returns from an injury and the program is in Manual substitution mode, the program does not automatically substitute him back into a starting slot (unless the coach of the team happens to be the computer). In order to help you keep track of players who return from injury they appear in the roster window with the jersey number and general position labels highlighted (in contrast to injured players, who are completely highlighted). They remain that way until you select them for a substitution.

TUTORIAL C.

STEP 19: Quarters, halftime, and after the game

When the clock runs out at the end of the first and third quarters, the program automatically switches sides for the teams. Only the direction of play is switched, not the keypads. The teams retain their keypads for the entire game.

At halftime, the program automatically displays statistical results for the first half. Included are all-important team statistics, such as first downs, yards gained, and time of possession. Then, before the second half begins, the program gives human coaches a chance to look at their rosters and make changes if they want. You will see a coaching menu appear for each human coach, exactly as you saw before the game (as we described in step 8). When you are through examining your roster, select option 3 on the menu, "Start game." Computer coaches are always ready, so as soon as all human coaches give the signal, the second half begins.

The second half proceeds just like the first. If, at the end of the fourth quarter, the score is tied, the game goes into sudden death overtime. Just like in the NFL. "Sudden death" means that whoever scores first from that point on, wins the game. The overtime period begins with a kickoff to the team that gets to receive is selected randomly by the computer. (In real football it is settled by a coin toss.) The game will proceed until one team or the other scores. If the game is still tied at the end of the overtime period, the game ends.

As soon as the game comes to an end, the program displays the final statistics for both teams. After that, if you desire, the program lets you have something right away which other coaches must wait for: a rematch.

STEP 20: The next time you run the program

As you may remember from step 3, the program began with questions about the kind of system you have. Your answers to those questions were recorded at that time. The next time you run the program, it won't bother to ask you the questions again.

But sometimes you may want the program to ask you about your configuration again. If, for instance, you start with a monochrome system, and then you upgrade it by acquiring a Color Graphics Adapter and RGB color monitor, you must inform the program; otherwise, you still will not see the graphic play animation.

To make the program ask the configuration questions again, all you have to do is delete the file called **CONFIG.NFL** from the program disk. To do this, put the program disk in the default drive and type the following:

del config.nfl

then press the enter key. But be careful! If you haven't had practice deleting files, you should read the instructions for your operating system first.

PART III — Special Features and Options

If you have gone through the step-by-step instructions in Part II of this User's Guide, then you have been exposed to several of the features and options in NFL Challenge. There are many other features in the program, some small and some very powerful, and in this part we will describe them one by one.

Every feature we describe below is activated by a particular key on the keyboard. That key is represented by a symbol such as [X] next to the description of the feature.

A note on all features: Because NFL Challenge is a complex program and must do many things, there are times when the program will be occupied by an activity which prevents some of the keys described below from taking effect. You will know when a key works by both a little sound you hear when you press it (providing you have left the sound on), and a message you see on the screen indicating the action taken by the program.

1. Exit, New game, and Freeze

[X] Exit the game.

[N] New game.

[F] Freeze the game.

You can exit the game at any point. If you are in the middle of a game, however, it will be lost, unless you specifically save it (see "Saving and Restoring games," below). As a safety feature, therefore, the program gives you a chance to change your mind before exiting. When you press [X], the question "Exit? (y/n)" appears: if you then press [Y], the program exits.

Another useful feature of NFL Challenge is the ability to start a game over with either the same teams or new teams. Pressing the [N] key, for "New game," activates this feature. Similar to the [X] key, the [N] key, as a safety feature, allows you to change your mind before the current game is lost.

Pressing [F] at any point freezes all action until you press another key.

2. Changing coaches and personas

Before the game **started**, as you may recall, you decided who would be the coach of each team, either a human or the computer. NFL Challenge allows you to switch coaches as often and whenever you want. If two people are playing, for instance, the game need not end if one person leaves; that person can simply turn over the coaching job to the computer. Likewise, if you are watching two computer coaches go at it and decide you want to participate, you can take control of one (or both) of the teams yourself.

There is more to coaches in NFL Challenge than human versus computer. The program provides three different kinds of computer coaches: Conservative, Balanced, and Aggressive. A computer-controlled team,

moreover, really has two coaches: one for offense and one for defense. Thus, there are a total of nine possible combinations for a given team.

Each kind of coach, or "persona," uses a particular strategy in selecting plays and making other decisions. On offense, the difference lies primarily in the mix of running and passing plays the coach will call. A Conservative offensive coach will call more running plays, an Aggressive offensive coach will call more passing plays, and a Balanced offensive coach will be somewhere in between. On defense, the three personas differ both in the formations they use and the kinds of plays they call. A Conservative defensive coach will rely on the 3-4 formation and call plays such as zone defenses that are less likely to result in a big break for either the offense or the defense. An Aggressive defensive coach, on the other hand, will use the 4-3 formation and call more blitzes, a riskier strategy. Again, a Balanced defensive coach will be somewhere in between, using both the 3-4 and 4-3 formations.

Every team in the NFL Challenge league has a default combination of offensive and defensive personas designed to take the best advantage of that team's strengths and weaknesses. If you select a computer coach for a team, the default persona combination will automatically be used; you can, however, change the personas to whatever combination you want.

Changing between computer and human coach, and among the personas if the coach is the computer, is all accomplished through the same feature:

[C] Change coaches.

Pressing [C] causes the game to freeze and a window to appear in the middle of the screen. This window, the Controller window, displays the current coach for each team. If the computer is the coach for a team, the window also displays the offensive and defensive coaching personas comprising the computer coach for that team.

With the Controller window up, you can change the coaches and personas for either or both teams. A menu will display the active keys and their functions.

For the team with the left keypad:

- [F1] Change the coach (Human/Computer)
- [F2] Change the offensive persona
- [F3] Change the defensive persona

For the team with the right keypad:

- [1] Change the coach (Human/Computer)
- [2] Change the offensive persona
- [3] Change the defensive persona

The "change persona" keys cause the specified coaching persona to rotate through the three alternatives: Conservative, Balanced, and Aggressive.

You can make as many changes as you want, for either or both teams, but you only can change the personas for a team when the coach of that team is the computer (the personas don't have any effect if a human is making the decisions). When you are finished, simply press any key other than one of the six listed above, and the window will disappear and the game will continue.

3. Delay speed and Extra-fast mode

NFL Challenge lets you change the speed at which the game progresses in two ways. One is a small adjustment and the other is a radical change.

[D] Delay speed adjust.

[E] Extra-fast mode on/off.

The delay speed is the amount of time that messages are displayed on the screen. There are three delay speeds available: Slow, Normal, and Fast. The program begins at Normal speed. If you find that you do not have time to read the messages, or if you find that you have more time than you need, you may want to change the delay speed by pressing **[D]**. The program will then display a line reading "Slow Normal Fast." The current state will be highlighted. At that point, you can change the delay speed by pressing the first letter of the choice you want: **[S]**, **[N]**, or **[F]**. Or you can press any other key to leave the delay speed as it is and return to the game. If you do select a speed, you will see your choice become highlighted; after a moment, the line will disappear and the game will continue.

Note that **[S]**, **[N]**, and **[F]** only affect the delay speed if you press **[D]** first and see the special display line described above on the screen.

If you want to speed up the game by more than just a little, instead of pressing **[D]** you can press **[E]**, which puts the program into a state called Extra-fast mode. Extra-fast mode speeds up the game by practically eliminating all pauses, by bypassing certain features such as graphic play animation, play selection windows, and special displays for touchdowns and field goals, and by putting the computer in control of both teams, regardless of whether their coaches are Human or not.

Once the program is put into Extra-fast mode, the game will proceed very quickly (less than fifteen minutes for an entire game on the average).

You can exit Extra-fast mode by pressing **[E]** again. The program will return to whatever delay speed, coaches (Human or Computer), and other modes were in effect before you entered Extra-fast mode.

4. Graphics and Instant replay

The features described in this section apply only if your computer system is equipped with color graphics capability (for a PC, PC/XT, or PC/AT, this means a Color Graphics Adapter and an RGB monitor such as the IBM Color Monitor).

If you have a system with color graphics, the program will display animated graphics for most plays (no graphics are displayed for punts and kicks). This is called graphics mode.

Generally, when the program is in graphics mode, it shows the animated depiction of each play twice: once at normal speed, and again in slow motion. The second time through is the instant replay.

You can avoid the animated graphics, if you want, or you can see the graphics but just avoid the instant replay.

[G] Graphics mode on/off.

[I] Instant replay on/off.

These keys work like switches: every time you press one, the state changes. For either key, a message will appear at the bottom of the screen indicating the effect.

The play graphics resemble an animated playbook: X's and O's representing the two teams line up in the proper formations, then move into action when the ball is snapped. While the animated graphics are actually running, most of the keys that activate various features in the program are disabled, while some other keys have certain effects only during the graphics. The following list describes all the keys that work during the actual running of the graphics and the functions they perform. Where two keys are listed for a single function, they have identical effects.

[X] Exit program (causes program to exit graphics and then display prompt "Exit? (y/n)" on main screen)

[F] Freeze game until another key is pressed (same as outside the graphics, except no message is displayed)

[Esc] (Cancel keys) Exit graphics immediately and return to main [-] screen.

[↔] [↔] (Enter keys) Show the play again. If pressed during the first running of the play, this key ensures that the instant replay will be displayed, even if instant replay is off. If pressed during the replay, this key causes another instant replay to be displayed. You can repeat the instant replay as often as you want.

[+] [-] (Shift keys) Freeze frame. The animation freezes as long as either key is depressed. You can use these keys to slow down the animation.

[] (Space bar) Hike/speed up. Normally, the players line up at the line of scrimmage, they pause for about a second, and then the program snaps the ball automatically to start the play. If you want to avoid the pause, you can snap the ball manually by pressing this key. Also, this key causes the graphics to run in fast motion as long as it is depressed.

The above keys are the only keys that have any effect while the graphics actually are running.

5. Saving and Restoring games

You will not always have enough time to finish an entire game without interruption. For this and other reasons, NFL Challenge provides you with the ability to save games in progress on your Team Disk and resume them at a later time. Like any diskette files, such saved games are as permanent as you want them to be: you can copy and erase them as well.

A game can be saved at any time, even before it begins (but after the coin toss) or right after it ends. When you eventually restore the game, it will begin at exactly the point at which you saved it, with the original teams, score, time, and other relevant game factors.

The save and restore features are both activated by pressing a combination of the "Alt" key and another key:

[Alt] [S] Save the current game. Press [Alt]; press [S] before letting go of [Alt]. The game will be saved in a file on the Team Disk. Then a menu will appear, giving you the option to restore another saved game, exit the program, or go back and continue the game you just saved.

[Alt] [R] Restore a previously saved game. Press [Alt]; press [R] before letting go of [Alt]. If there are any saved games on the Team Disk, a window will appear identifying the last saved game. Pressing the up or down cursor keys causes the window to identify any other saved games on the Team Disk; pressing the enter key causes the game identified in the window to be restored; and pressing any other key causes the restore game window to disappear and the current game to continue.

You can have up to nine saved games at a time on your Team Disk. The first game you save will be stored in a file called GAME.1, the second in a file called GAME.2, and so on. If you already have nine games on your Team Disk, you can still save a game, but it will be called GAME.9 and the old GAME.9 will be lost. If you want to keep more than nine saved games, all you have to do is copy some or all of the game files onto another diskette, or just rename them (there is actually room for more than nine saved games on the Team Disk, but the program can only recognize the nine games with the proper names). If you do rename a saved game file, remember that you will have to change the name back to a name the program will recognize (GAME.1, GAME.2, etc.) before you can restore it.

As described above, pressing **[Alt] [R]** to restore a game causes a special window to appear allowing you to see what saved games are on your Team Disk. Saved games are described in the window by number (1 through 9) and by the teams that are playing in the game. To find out the score or anything else about the game, you must restore it. But note that if you restore a game without saving the game you are currently playing first, the current game will be lost.

When the program saves or restores a game, it saves or restores all the relevant aspects of the football game itself. In addition to teams, score, and

time, this includes the current down, yardline yards to go, lime outs remaining, the entire starting lineups for both teams, the status of injured players, and all statistics. Also saved and restored are the coaches (Human or Computer) and the coaching personas.

Most aspects of the program which are not part of the actual football game itself, however, are not saved and restored with a game. This includes such things as the delay speed, the configuration, and whether learn mode, graphics mode, instant replay, sound, etc. are on or off. None of these really are part of the football game; they are just part of the way you are using the program at that time.

The save and restore features are active whenever you see the main NFL Challenge screen (i.e., the screen with the field in the middle and the scoreboard at the top). Thus you cannot save or restore a game until after you complete the team selection process and coin toss before the game. If you are planning to restore a game immediately, then your team selection and other pregame choices will make no difference; but the program nevertheless needs to go through the process to be properly loaded and initialized.

There are a number of uses of the save and restore features besides just being able to interrupt a game in the middle without losing it. The following is just a sampling:

- Saving a particular starting lineup: You may have a favorite arrangement of starting players for a team; since starting lineups are saved with a game, you can use the save game feature to record a starting lineup for future reference.
- Going back to a certain point in a game: The undo feature, described later in this part, allows you to see what might have happened on a play if you had tried a different strategy; that feature, though, only lets you try one play over at a time. With the save and restore functions, you can explore alternative strategies in depth. Let's say, for example, that you are unsure whether to go for it or punt in a particular fourth-down situation. You can save the game before you decide, continue the game with a punt, then eventually restore the game back at the decision point and try going for it instead.
- Keeping a record of finished games: If you save a game immediately after it ends, the saved game file will contain the period-by-period score and final statistics for the game, available for you to review in the future if you should ever want to.

6. Sound

NFL Challenge employs sound both to enhance enjoyment (such as by playing a little tune whenever a touchdown occurs) and make the program easier to use (such as by providing audible feedback when certain keys are pressed). But for those who prefer silence, NFL Challenge allows the sound to be turned off at a touch of a button:

[S] Sound on/off,

The program starts with the sound on. Pressing [S] once turns off the sound; pressing [S] again turns the sound back on. You can turn the sound on and off as often as you want. If you want to make sure that the program makes no sound at all, press [S] just before the kickoff.

7. Results (statistical)

NFL Challenge automatically displays team statistics for a game at halftime and immediately after the game (see step 19 in Part II). You also can examine the statistics at any other time you want.

[R] Results (statistical).

Pressing this key causes the program to display a special screen showing complete statistics for both teams up to that point in the game.

You can use this key as often as you want. If both teams are computer-controlled, the statistics screen will automatically disappear after a few seconds and the game will continue unless the [F] key is quickly hit. Otherwise, the statistics screen will remain until you press any key. The game is frozen whenever the statistics screen is visible.

8. Learn mode and Manual substitution mode

We described these important keys once in Part II, but they deserve mention again.

[L] Learn mode on/off.

[M] Manual substitution mode on/off.

Learn mode prevents delay of game penalties from occurring, thus providing you with unlimited time to select plays, make substitutions, and ponder strategy. This mode is especially useful for those who are still learning how to play NFL Challenge (hence the name), but it has other uses as well. In particular, it may be appropriate for those whose interest in NFL Challenge is more in the area of strategy than in the realism of the simulation.

Manual substitution mode allows you to have control over injury substitutions; otherwise, injured players are substituted for by the computer. Because substitutions are perhaps the most complicated part of the game, NFL Challenge begins with Manual substitution mode off. The computer performs injury substitutions reasonably and fairly. By entering Manual substitution mode, however, you can ensure that the players who enter the game because of injuries fit in with your game plan as well as possible.

Remember that in Manual substitution mode you also are responsible for substituting a player back into the game after he returns from an injury.

You can enter and exit these modes as often as you want.

9. Windows, Verbose messages, and Play names

NFL Challenge provides mechanisms for varying the amount of information provided during the course of a game to suit your needs.

[W] Windows for play selection on/off.

[V] Verbose messages/terse messages.

[P] Play names on/off.

During offensive and defensive play selection, each coach first selects a play group and then a play within that group. When a play group is selected, a window with the plays available in that group appears. Thus each coach can see what play group the other coach has selected (though not the specific play) before his own play choice is necessarily finalized. Since the offense is under the pressure of the thirty second clock, this may give a certain advantage to the defense.

This is realistic, as we described before, because the play groups correspond to formations, and in a real football game each team (and especially the defense) actually does have a chance to see the other team's formation before the snap. Nevertheless, some NFL Challenge users may regard the jumping from play group to play group, guessing, faking, and trigger finger games which can arise from this knowledge of each other's play groups as a distraction from the more essential strategy questions of football. For these users, the program allows the play group windows to be suppressed. by simply pressing [W].

Without the play group windows, all clues as to your own as well as the other coach's play selection are eliminated. If you play the game in this mode, you must rely either on the playbooks or your familiarity with the play groups to know what you are doing.

The [V] and [P] keys also change the amount of information presented on the screen during the game, but not in a way that really affects strategy.

Normally, the information displayed in the message area below the field after a play includes details such as who carried the ball and who performed the tackle, in addition to the number of yards gained or lost. Such messages are referred to as "Verbose." You can have the program display "Terse" messages instead, in which the specific player identities are dropped and only the overall results are noted. Pressing [V] switches the program between Verbose and Terse messages.

The message area also, by default, displays the name? of the plays that were called. You can exclude this information as well, if you wish. Pressing [P] turns the play names off or on.

Note: In Extra-fast mode, only Terse messages are displayed, regardless of the status of the Verbose/Terse switch.

10. Undo

Second guessing is an inevitable part of football. In simulated football, unlike the real thing, you can take second guessing beyond the realm of conjecture. NFL Challenge's Undo feature allows you to run a particular play over again, as often as you want, calling a different play every time, or calling the same play, as you desire.

[U] Undo the previous play.

When you press [U], the screen changes to reflect the situation (time, score, yard line, etc.) that existed immediately prior to the last play that ran. The coaches then are free to select plays and make any other decisions, whether the same as before or different. The program then runs the play and announces the new results.

At this point, however, the game returns to the state that existed after the original version of the previous play, i.e.. at the moment the [U] key was pressed. The results of alternative play run through the Undo function are discarded. You can then press [U] again, if you want, and run through the play again; but again the results of the play from the first time through will be restored before the game moves on. The Undo feature, in other words, cannot be used to actually change the course of the game.

APPENDIX — Modifying the NFL Challenge Roster Files

The 28 team rosters provided with NFL Challenge are based on the most up-to-date information available at the time they were created. In recognition of the fact that all things change, NFL rosters among them, the NFL Challenge roster files are in a form that can be modified using readily available word processing software (not provided). The only limitation is that the word processor used must be able to edit and store files in ASCII form. Consult the manufacturer if you are not sure whether your word processing software falls in this category.

The roster files are located on the Team Disk. Each one is clearly named after the team it applies to and has the extension .NFL (e.g., VIKINGS.NFL). The name of the file must remain exactly as it is for the program to be able to use it.

As a precaution, be sure to make a back-up copy of any NFL Challenge file you modify.

For the most part the format of the roster files is self-evident. The data is laid out very similarly to the way it appears in the roster window in NFL Challenge, with a few crucial differences. First of all, where you see "." in NFL Challenge (representing skill levels in areas not relevant to a player's position), you will see the number 50 in the roster file. More significantly, the starting players are not indicated by labels in the main part of the roster; rather, starting assignments are listed separately at the end. Also, at the very end of the roster file, the offensive and defensive coaching personas for that team are listed.

If you edit a roster file, it is extremely important that you maintain the exact format of the file. Do not eliminate or add lines of data, and do not change any punctuation. Essentially, all you can edit safely are the numbers themselves.

We do not recommend changing the roster files to modify player skill levels and other data arbitrarily. NFL Challenge expects the data to be within certain ranges. If you do modify the rosters, therefore, be careful to maintain the existing ranges of values, or else the results of the simulation may be invalid.

The first time you run a modified roster file in the program, call up the roster window for that team and look it over very carefully. If you see anything other than what you expect (such as starting labels in the wrong place, erroneous numbers, etc.), chances are you either made a mistake in editing or you inadvertently disturbed the format of the file. If the roster file then appears normal when you look at it again with your word processor, start over again with a fresh copy of the original roster file.

Offense: Introduction

The offenses available in NFL Challenge reflect the variety of offensive strategies found in the NFL today. There are six groups of plays: one group of which include short yardage plays (such as dives over the line), one group of long yardage plays (such as shotgun plays), one group of special plays (such as punts and field goals), and three groups of plays for all situations based on typical professional formations (such as the I-formation).

A useful thing to do before a game is to create a game plan, which begins with selecting those plays in the playbook which you think will work best for your team. Your team might have a balanced offense, or it might have an offense that is clearly better at either the pass or the run. In addition, it might have a stronger line on one side or the other. The defense that you will face will have its strong points and its weak points as well.

But a game plan means more than just picking a set of plays; it also means deciding which of those plays you will call in all the various situations that may come up in a game. You are likely to want to call a riskier play in long yardage situations, on third down (except third-and-very-short), or if you are behind late in the game. Similarly, you are likely to want to call a less risky play in short yardage situations, or if you are ahead late in the game. But you will want plenty of options at any one time. It's always best to keep the defense guessing.

RISK-GAIN

The plays in the offensive playbook belong to five "Risk-Gain" categories: Short, Medium, Sting, Long, and Very Long. Each category refers to a range of yardage that the play attempts to gain. This range also represents the risk of the play; the wider the range of expected results, the riskier the play.

Plays in the Sting category are especially unpredictable and thus risky. They are counterpunch plays designed to succeed against specific defenses. If such a defense is called, they will do well; if not, the play could lose yardage.

These categories, of course, are only guidelines. Every play has in reality a unique risk-gain combination. Moreover, every play has in it a certain potential for a loss as well as for a much bigger gain than expected.

In all cases the actual results will be influenced by many factors, such as the strengths and weaknesses of the two teams, and the strategies crafted by their coaches. There are many ways to devise a strategy for victory in football, but in the long run, practically anything goes.

Risk-Gain Category	Attempted Yardage
Short	0 to 3
Medium	2 to 7
Sting	0 to 10
Long	6 to 18
Very Long	13 or more

GLOSSARY

Explanations of Terms Used in Play Names And Descriptions

- A. The halfback (e.g., Shotgun A, B Divide).
- B. The fullback (e.g., Shotgun A, B Divide).
- Buck.** The inside linebacker opposite the strongside of the offensive line.
- C. The slotback. The backfield player who lines up in the slot between the wide receiver and the interior line (e.g., Shotgun C Post).
- Contain Defenders.** The contain men of the defense (see Contain Man).
- Contain Man.** The defender responsible for not letting the ball carrier get outside, forcing him back to the other defenders in the middle.
- Dime Defense.** A pass defense in which a second linebacker is replaced by a sixth defensive back, the dime back (see Nickel Defense).
- Double Zone.** A pass defense with 2 deep zones.
- Draw Play.** A running play designed to look like a pass play.
- Flat.** The short (or underneath) zone next to the sideline.
- Mike.** The middle linebacker in a 4-3 defense.
- Nickel Defense.** A pass defense in which a linebacker is replaced by a fifth defensive back, the nickel back.
- Post Pattern.** A pass route where a receiver runs straight at the goalpost.
- Sam. The outside linebacker opposite the strongside of the offensive line.
- Streak.** A pass route on which the receiver streaks (runs) downfield as fast as he can.
- Strongside.** The side of the offensive line (and thus the field) which has the tight end. In pass formations it is the side with two receivers.

Glossary continued on inside back cover

Offensive Plays

Group 1 White

Situations: Short yardage

Formation: Two set backs, three tight ends

Plays:

1. **QB Sneak** (Run)
Risk-Gain: Short
2. **FB Power** (Run)
Risk-Gain: Short
3. **HB Lead** (Run)
Risk-Gain: Short
4. **All Strong** (Pass)
Risk-Gain: Medium
5. **Y, Z Cross** (Pass)
Risk-Gain: Medium

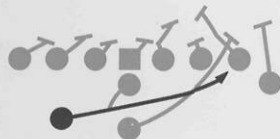
- 1 Quarterback Sneak:** The center leads the quarterback for a short gain.



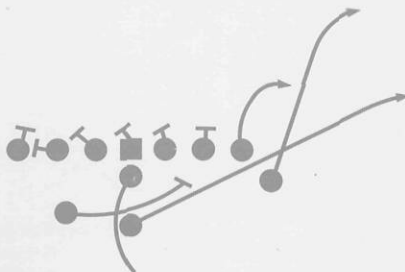
- 2 Fullback Power Run:** The halfback leads the fullback into the weakside hole.



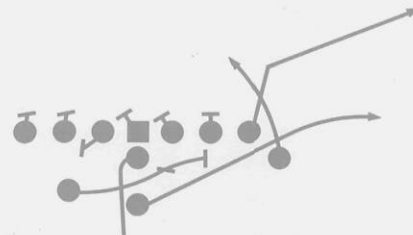
- 3 Halfback Lead Run:** The fullback lead blocks for the halfback's strongside run.



- 4 All Strong Pass:** Three receivers flood the medium-short strongside defenders.



- 5 Y, Z Cross Pass:** Two receivers flood the strongside flat zone, one receiver cuts back to the middle.



Offensive Plays Group 2 Blue

Situations: All situations

Formation: I-formation

Plays:

1. HB Dive Strong (Run)

Risk-Gain: Short

2. FB Dive Strong (Run)

Risk-Gain: Short

3. HB Option Weak (Run)

Risk-Gain: Medium

4. FB Sweep Strong (Run)

Risk-Gain: Medium

5. HB Counter Weak (Run)

Risk-Gain: Medium

6. HB Sprint Draw (Run)

Risk-Gain: Medium

7. SE Loop Pass (Pass)

Risk-Gain: Long

8. SS Progression (Pass)

Risk-Gain: Long

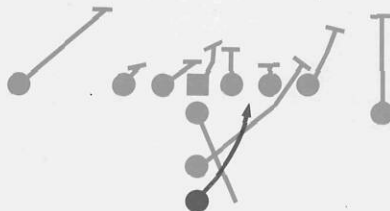
9. FB Streak (Pass)

Risk-Gain: Very Long

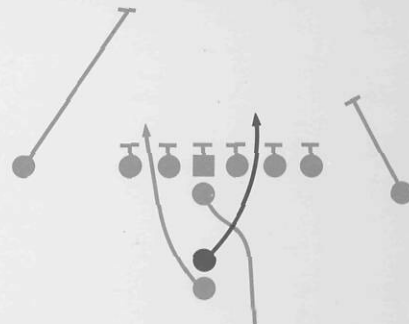
10. TE Streak (Pass)

Risk-Gain: Very Long

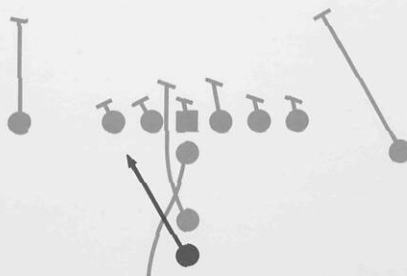
1 Halfback Dive Strong: The halfback runs a quick hitter between the strong-side guard and tackle.



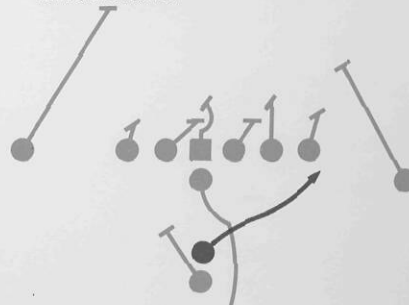
2 Fullback Dive Strong: The halfback fakes weakside as the fullback runs strongside.



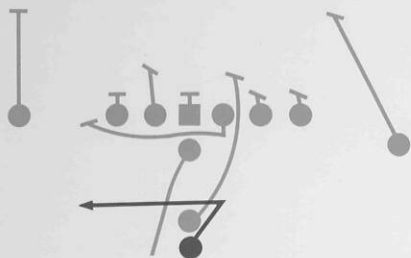
3 Halfback Option Weak: The halfback chooses his hole weakside.



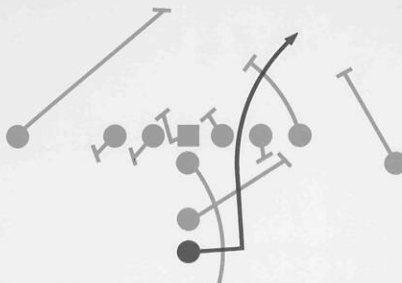
4 Fullback Sweep Strong: The fullback tries to outdistance the strongside contain defenders.



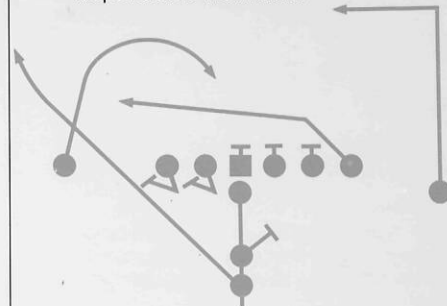
5 Halfback Counter Weak: The halfback fakes strongside, then cuts back for a weakside end run.



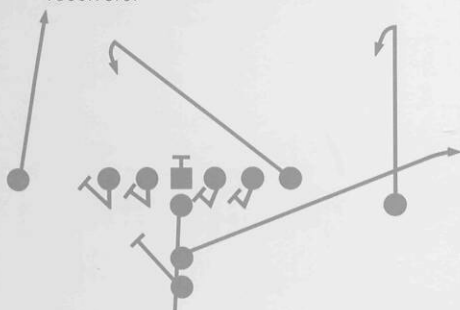
6 Halfback Sprint Draw: A fake pass opens a strongside lane for the halfback as defenders rush themselves out of the play.



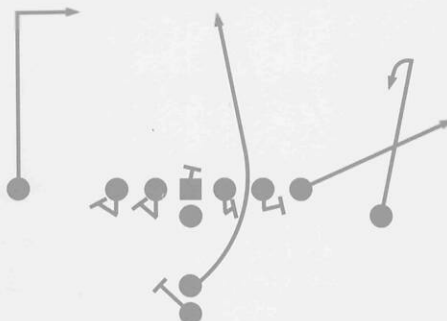
7 Split End Loop Pass: The tight end crosses to the weakside as the split end loops back to the middle.



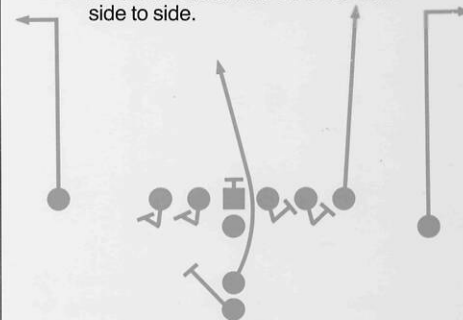
8 Strongside Progression Pass: The primary targets are the two strongside receivers.



9 Fullback Streak Pass: A balanced attack, deep and short, right and left.



10 Tight End Streak Pass: Four receivers stretch the defense from side to side.



Offensive Plays

Group 3 Purple

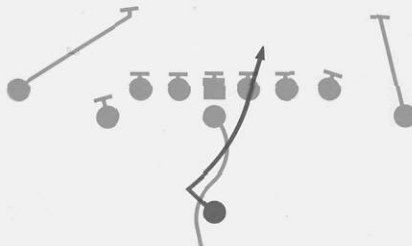
Situations: All situations

Formation: Double wing with lone set back and second tight end

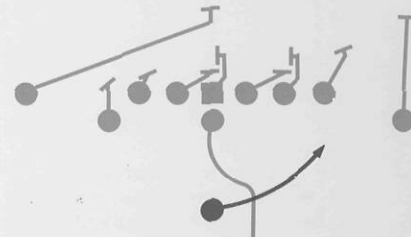
Plays:

1. **FB Dive (Run)**
Risk-Gain: Short
2. **FB Sweep Strong (Run)**
Risk-Gain: Medium
3. **FB Sweep Weak (Run)**
Risk-Gain: Medium
4. **FB Trap Strong (Run)**
Risk-Gain: Sting
5. **FB Trap Weak (Run)**
Risk-Gain: Sting
6. **SS Quick Pass (Pass)**
Risk-Gain: Long
7. **WS Rollout (Pass)**
Risk-Gain: Long
8. **Wing WS Flood (Pass)**
Risk-Gain: Long
9. **Y,Z Streak (Pass)**
Risk-Gain: Very Long
10. **All Streak (Pass)**
Risk-Gain: Very Long

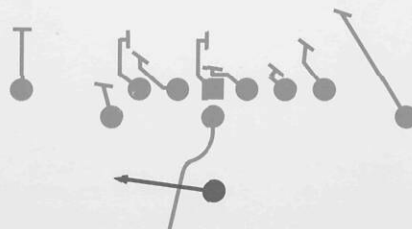
- 1 Fullback Dive:** The fullback fakes weak and runs through the strongside guard's position.



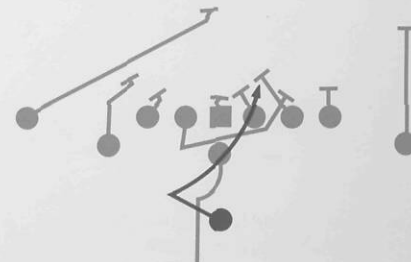
- 2 Fullback Sweep Strong:** A fullback strongside end run.



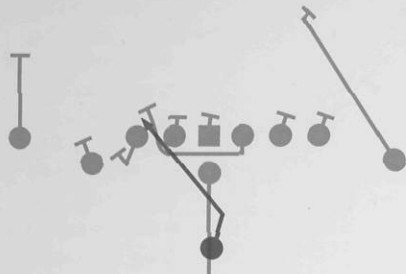
- 3 Fullback Sweep Weak:** A fullback weak-side end run.



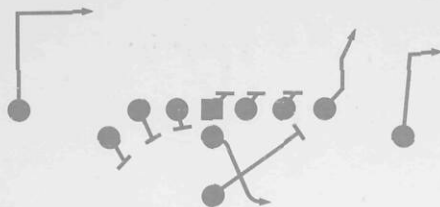
- 4 Fullback Trap Strong:** The weakside guard traps the defensive tackle opening up a strongside hole for the fullback.



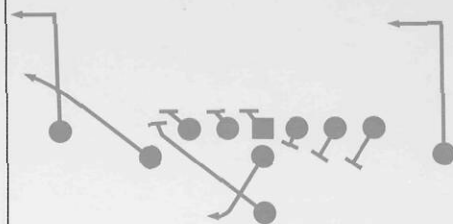
- 5 Fullback Trap Weak:** The fullback fakes strongside, then follows the strongside guard through the line weakside.



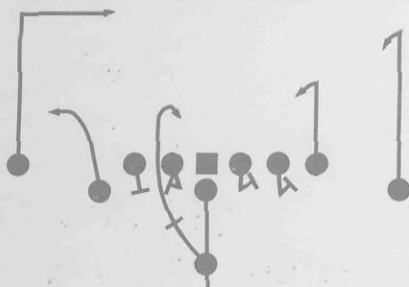
- 6 Strongside Quick Pass:** Three receivers run short patterns to counter a charging defense.



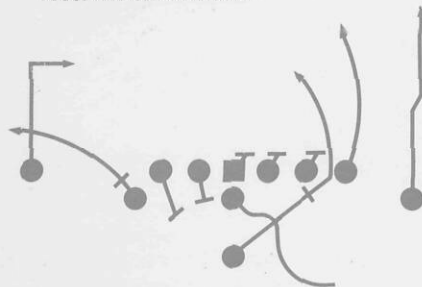
- 7 Weakside Rollout:** Two receivers flood the weakside flat zone.



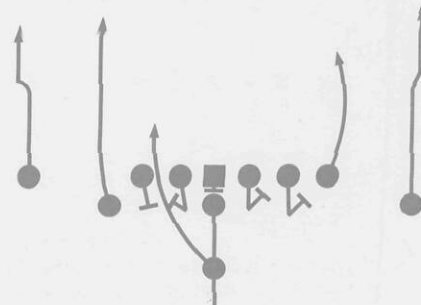
- 8 Wing Weakside Flood:** Primary targets weakside, but secondary targets stretch the defense from sideline to sideline.



- 9 Y, Z Streak:** The primary receivers go down the middle with secondary receivers on the sides.



- 10 All Streak Pass:** The defense is challenged deep.



NOTE: The
in cap

Group 3 Purple

Group 4 Red

Group 5 Yellow

Offensive Plays

Group 4 Red

Situations: All situations

Formation: Fullback behind quarterback, halfback split to weakside

Plays:

1. FB Option Dive (Run)

Risk-Gain: Short

2. HB Toss Sweep (Run)

Risk-Gain: Medium

3. FB Draw (Run)

Risk-Gain: Sting

4. HB Trap (Run)

Risk-Gain: Sting

5. FB SS Screen (Pass)

Risk-Gain: Sting

6. TESS Screen (Pass)

Risk-Gain: Sting

7. Sweep Play Action (Pass)

Risk-Gain: Long

8. WS Flood (Pass)

Risk-Gain: Long

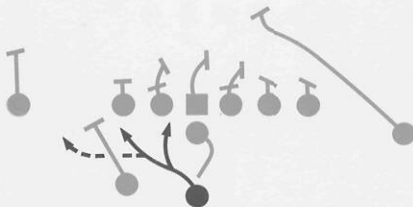
9. X, Z Curl (Pass)

Risk-Gain: Very Long

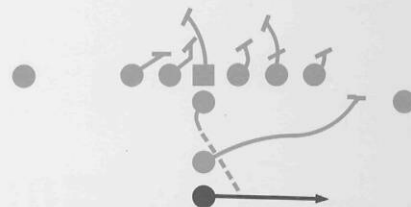
10. SS Flood (Pass)

Risk-Gain: Very Long

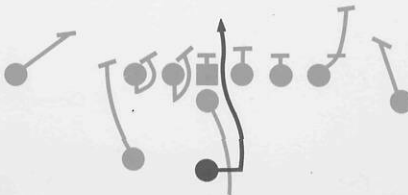
1 Fullback Option Dive: Fullback's choice, through the weakside line or around the end.



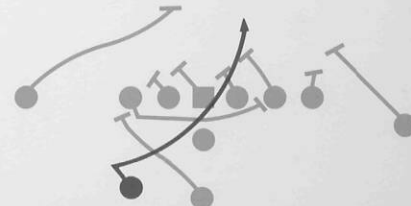
2 Halfback Toss Sweep: The fullback lead blocks for the halfback's strongside end run.



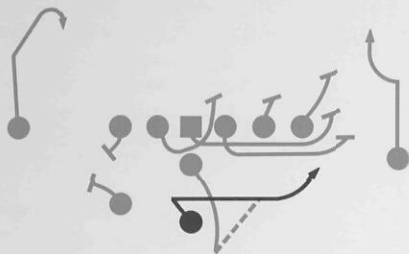
3 Fullback Draw: A pass fake to open a hole for the fullback's run.



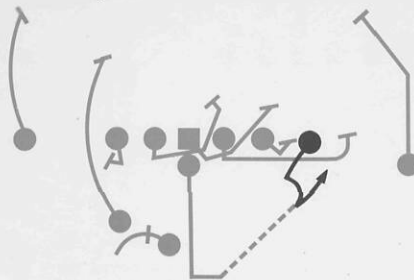
4 Halfback Trap: The halfback follows the pulling weakside tackle's block.



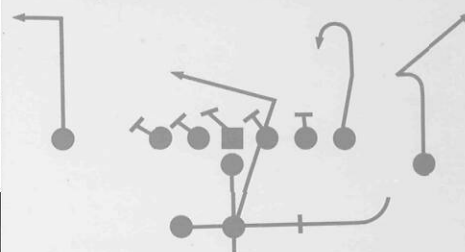
5 Fullback Strongside Screen: A pass; blockers let the rushers through, then form a screen for the fullback.



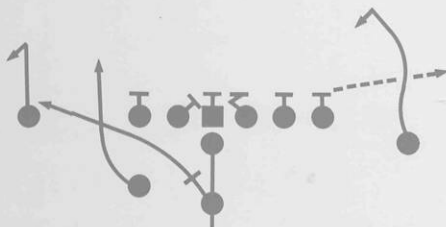
6 Tight End Strongside Screen: A pass play designed to give the tight end running room.



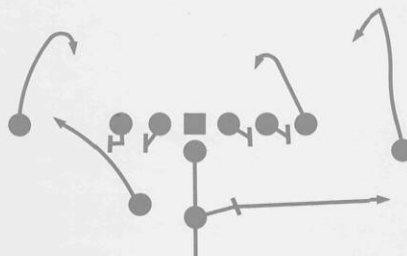
7 Sweep Play Action Pass: A pass play that looks like a run, to give the receivers the jump on the pass defense.



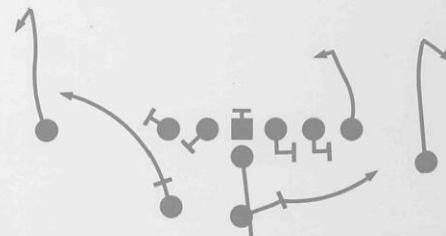
8 Weakside Flood: Three receivers overload the weakside defense.



9 X, Z Curl: The primary attack is in the middle, with the backs as secondary targets near the sidelines.



10 Strongside Flood: Three primary receivers go strongside, two secondary targets weakside.



NOTE: The defaults are shown in capital letters.

Group 4 Red

Group 5 Yellow

Offensive Plays Group 5 Yellow

Situations: Long yardage

Formations: Shotgun and Slot; some with a third wide receiver

Plays:

1. Shotgun Draw Trap (Run)

Risk-Gain: Sting

2. Slot SS Rollout (Pass)

Risk-Gain: Long

3. Slot WS Flood (Pass)

Risk-Gain: Long

4. Shotgun SS Stack (Pass)

Risk-Gain: Long

5. Slot X,Y,Z In (Pass)

Risk-Gain: Long
(Three wide receivers)

6. Shotgun A, B Divide (Pass)

Risk-Gain: Long

7. Shotgun C Post (Pass)

Risk-Gain: Very Long
(Three wide receivers)

8. Slot X,Y,Z Streak (Pass)

Risk-Gain: Very Long

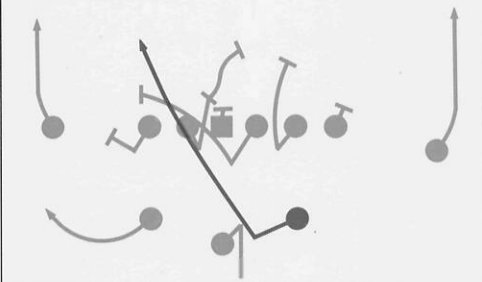
9. Shotgun SS Flood (Pass)

Risk-Gain: Very Long
(Three wide receivers)

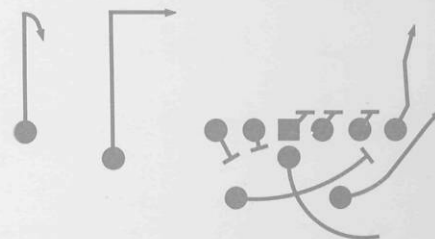
10. Shotgun Y Cross (Pass)

Risk-Gain: Very Long
(Three wide receivers)

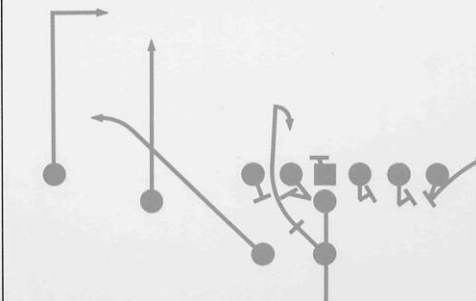
1 Shotgun Draw Trap: A weakside run from a passing formation to keep the defense honest.



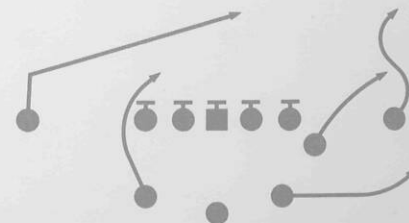
2 Slot Strongside Rollout: Two wide receivers threaten the defense weakside, but the primary targets are strongside.



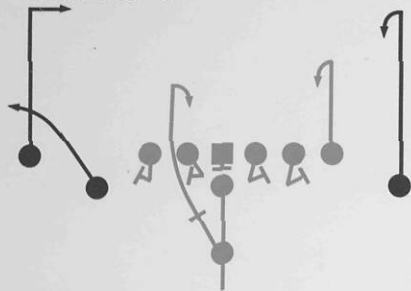
3 Slot Weakside Flood: Four receivers flood the weakside defense.



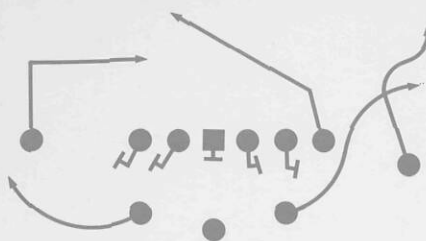
4 Shotgun Strongside Stack: Three stacked receivers flood the strongside flat zone.



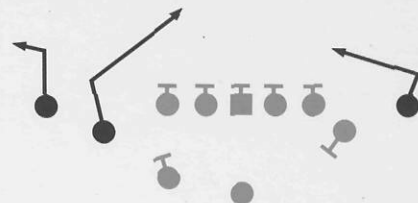
- 5 Slot X, Y, Z In:** Five middle distance receivers stretch the defense from sideline to sideline.



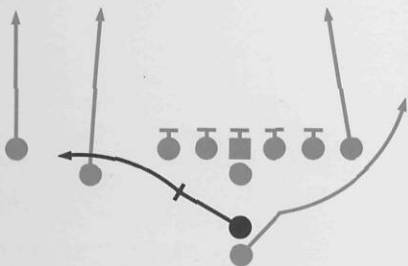
- 6 Shotgun A, B Divide:** A widespread attack challenges the defense deep and at the middle distance.



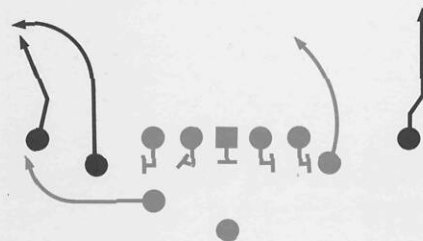
- 7 Shotgun C Post:** Two short pass routes and one deep; a good choice against the blitz.



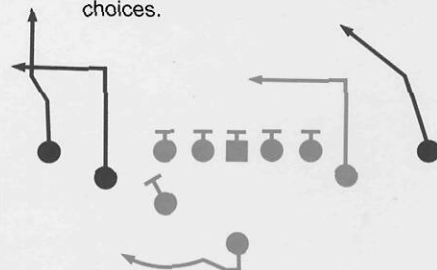
- 8 Slot X, Y, Z Streak:** Three receivers threaten the deep defenders.



- 9 Shotgun Strongside Flood:** Two wide receivers and a back flood the left side.



- 10 Shotgun Y Cross:** Two wide receivers are primary left-side targets; the crossing tight and split ends are secondary choices.



NOTE: The defaults are shown in capital letters.

Offensive Plays Special Play Group 6 Green

Situations: Beginning of fourth down
or two-minute mode

Formation: N/A

Plays:

1. Punt
2. Field Goal
3. QB Downs Ball
4. QB Throws Ball Away

Note: There are no play diagrams
for these plays.

Other Offensive Play Selections: Kickoffs and Fourth-Down Situations

Kickoffs:

1. Normal kick
2. Onside kick
3. Squib kick

Fourth Down:

1. Go for it
2. Punt
3. Field Goal

Note: There are no play diagrams
for these plays.

Defense: Introduction

Defenses in the NFL vary widely in a continuing attempt to keep offenses off balance. To represent this **variety**, the NFL Challenge Defensive Playbook contains plays based on both of the classic defensive formations in broad use: the 3-4 and the 4-3.

In addition to two groups of multi-purpose plays based on these two formations, the playbook also contains a group of short-yardage defenses (expecting short runs or passes) and a group of long-yardage defenses (expecting long passes). Within each group, the plays are listed in a particular order, from the most balanced to the most aggressive. A defense is balanced if it covers all parts of the field well and is ready for any kind of play. There is a cost to balanced coverage, however, which is that the defense will not be as likely to force a break or hold the offense to a loss. A less balanced but more aggressive defense creates the potential for both greater losses and greater gains by the offense, depending on how well the defensive coach has predicted his opponent's next move. Against runs, the position of the front linemen and the assignments of the linebackers will determine largely where the strong points, as well as the holes, in the defense will be. Against passes, the number of pass rushers and the type of pass coverage used are the most important factors.

Zone coverages are safer against many

passes than man-to-man coverages, because they are less likely to allow a receiver to break deep; man-to-man coverages, however, are less susceptible to flood passes (plays which send several receivers to one part of the field) and in general apply more pressure on the receivers. For zone coverages, the number of deep zones versus short zones is important. Also, of course, a fifth (nickel) or sixth (dime) defensive back improves any pass coverage considerably. Blitzes can be an effective tool against long passes; if the offense knows a blitz is coming, it has a powerful counter-weapon in the screen pass or the draw play.

For every play in the playbook, we list the type of pass coverage employed. We also note the number of blitzers (pass rushers greater than four) and extra defensive backs, if any. The plays in the short and long groups are labeled according to the formation they run from, which can be 3-4, 4-3, or 4-4 ("goal-line stand" defense, with four front linemen, four linebackers, and three defensive backs).

GLOSSARY

Explanations of Terms Used in Play Names And Descriptions

A. The halfback (e.g., Shotgun A, B Divide).

B. The fullback (e.g., Shotgun A, B Divide).

Buck. The inside linebacker opposite the strongside of the offensive line.

C. The slotback. The backfield player who lines up in the slot between the wide receiver and the interior line (e.g., Shotgun C Post).

Contain Defenders. The contain men of the defense (see Contain Man).

Contain Man. The defender responsible for not letting the ball carrier get outside, forcing him back to the other defenders in the middle.

Dime Defense. A pass defense in which a second linebacker is replaced by a sixth defensive back, the dime back. (see Nickel Defense).

Double Zone. A pass defense with 2 deep zones.

Draw Play. A running play designed to look like a pass play.

Flat. The short (or underneath) zone next to the sideline.

Mike. The middle linebacker in a 4-3 defense.

Nickel Defense. A pass defense in which a linebacker is replaced by a fifth defensive back, the nickel back.

Post Pattern. A pass route where a receiver runs straight at the goalpost.

Sam. The outside linebacker opposite the strongside of the offensive line.

Streak. A pass route on which the receiver streaks (runs) downfield as fast as he can.

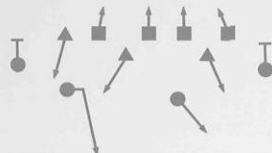
Strongside. The side of the offensive line (and thus the field) which has the tight end. In pass formations it is the side with two receivers.

Glossary continued on inside back cover

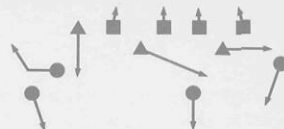
Defensive Plays Group 1 Short

1. **4-3 Under Zone**
Coverage: Zone
2. **4-3 Under Willy**
Coverage: Zone
3. **4-4 Buck Strong**
Coverage: Zone;
Two blitzers
4. **4-4 Buck Soft**
Coverage: Zone;
Two blitzers
5. **4-3 Under SS Blitz**
Coverage: Man-to-man;
Two blitzers
6. **4-4 Inside Charge**
Coverage: Man-to-man;
Two blitzers

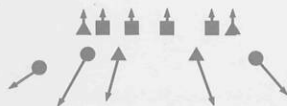
- 1 4-3 Under Zone:** The undershift reinforces the center of the line.



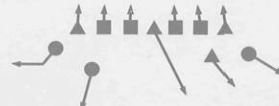
- 2 4-3 Under Willy:** Three deep defenders and a good run defense. A good choice for second and short.



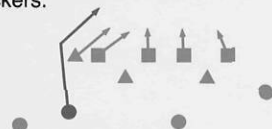
- 3 4-4 Buck Strong:** Maximum run defense along with three strongside zones.



- 4 4-4 Buck Soft:** A goal-line defense with three weakside zones.



- 5 4-3 Under Strong Safety Blitz:** Four strongside rushers to overload the blockers.



- 6 4-4 Inside Charge:** Six rushers pressure the quarterback.



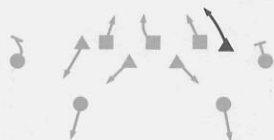
Defensive Plays

Group 2

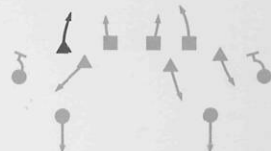
3-4 Normal

1. **10 Five Under**
Coverage: Zone
2. **20 Five Under**
Coverage: Zone
3. **20 Three Deep**
Coverage: Zone
4. **10 Man Under**
Coverage: Man-to-man short, zone deep
5. **10 Over Man Under**
Coverage: Man-to-man short, zone deep
6. **20 Over Stack**
Coverage: Zone; One blitz
7. **Sam and Will Blitz**
Coverage: Man-to-man; One blitz

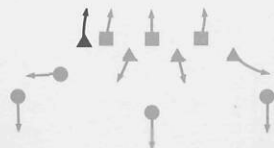
- 1 10 Five Under:** The weakside linebacker rushes, two deep zones.



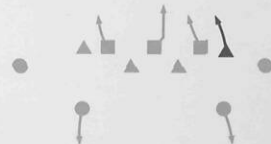
- 2 20 Five Under:** The strongside linebacker rushes, two deep zones.



- 3 20 Three Deep:** The strongside linebacker rushes, three deep zones.



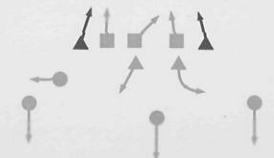
- 4 10 Man Under:** The weakside linebacker rushes, man coverage underneath.



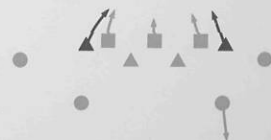
- 5 10 Over Man Under:** The overshift strengthens the weakside line against a dive play, man coverage underneath.



- 6 20 Over Stack:** The offensive line may have trouble run-blocking against stacked linebackers, three deep zones.



- 7 Sam and Will Blitz:** Both outside linebackers rush, man coverage underneath.



Defensive Plays

Group 3

4-3 Normal

1. 30 Willy

Coverage: Zone

2. 30 Double Zone

Coverage: Zone

3. Over Twist Willy

Coverage: Zone

4. 30 Slot Zone

Coverage: Zone on strong side, man-to-man on weak side

5. 11 Mike Blitz

Coverage: Man-to-man with one deep zone; One blitz

6. 10 Blitz Man

Coverage: Man-to-man; Two blitzers

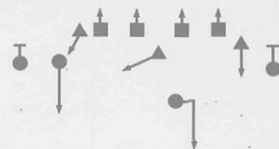
7. 11 Blitz Slot Man

Coverage: Man-to-man; Two blitzers

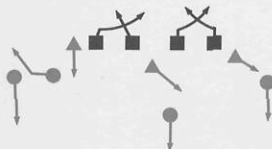
1 30 Willy: A standard first-and-10 defense. three deep zones.



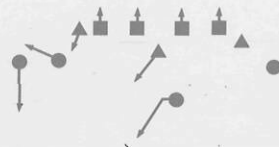
2 30 Double Zone: Only two deep zones, but good against a middle-distance attack.



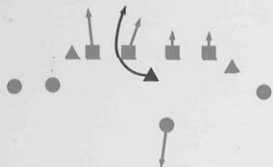
3 Over Twist Willy: The stunting pass rushers may give the blockers trouble.



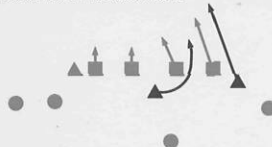
4 30 Slot Zone: Good strongside pass coverage, vulnerable weakside.



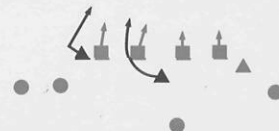
5 11 Mike Blitz: The middle linebacker blitzes strongside.



6 10 Blitz Man: The middle and outside linebackers rush weakside.



7 11 Blitz Slot Man: Four pass rushers test the strongside blocking.



Defensive Plays

Group 4 Long

1. 4-3 Double Man Dime

Coverage: Man-to-man
short, zone deep;
Six defensive backs

2. 3-4 Will Out Nickel

Coverage: Zone;
Five defensive backs

3. 3-4 Man Under Dime

Coverage: Man-to-man
short, zone deep;
Six defensive backs

4. 3-4 SS Blitz Nickel

Coverage: Man-to-man;
One blitz;
Five defensive backs

5. 4-3 Over Blitz Man

Coverage: Man-to-man;
Two blitzers

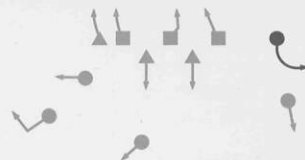
6. 4-3 Over FS Blitz

Coverage: Man-to-man;
Four blitzers

1 4-3 Double Man Dime: Both outside linebackers are replaced by defensive backs; two deep zones.



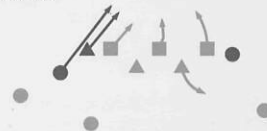
2 3-4 Will Out Nickel: The weakside linebacker is replaced by a back who lines up across from the split end.



3 3-4 Man Under Dime: Two defensive backs replace the outside linebackers, a three man rush.



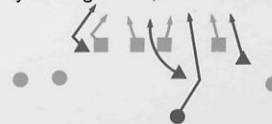
4 3-4 Strong Safety Blitz Nickel: Three strongside rushers swamp the pass blockers.



5 4-3 Over Blitz Man: Four weakside rushers challenge the blockers.



6 4-3 Over Free Safety Blitz: Eight rushers draw a bead on the quarterback. If they don't get him, there's trouble.



(Glossary continued)

Trap Play. A running play in which a defensive lineman is not blocked, inviting him to rush forward where a pulling guard (or tackle) can blast him.

Twist. A defensive maneuver where two rushers line up normally, but switch rush lanes.

Under - Underneath. Refers to the pass defense "underneath" the deep zones.

Under - Undershift. A defensive formation in which linemen shift one position toward the weakside.

Weakside. The side of the offensive line which does not have the tight end.

Will. The outside linebacker opposite the weakside of the offensive line.

Willy. A zone defense with three deep zones.

X. The split end (e.g., X, Z Curl).

Y. The tight end (e.g., Shotgun Y Cross).

Z. The flanker (e.g., Y, Z Streak).

NFL Challenge Quick Reference Keyboard Guide

IBM

COACHES' KEYPADS

LEFT KEYPAD

[F1] to [F10] Number keys
[Esc] (Q) Cancel Key
[Enter] Enter Key
[Z] (Z) Coaching key
[F1] Cursor up
[F5] Cursor down
[F4] Cursor right
[F3] Cursor left
[F2] Page Up
[F6] Page Down

RIGHT KEYPAD

[1] to [9]. [0] *
[-] *
[←] *
[/] *
[↑] *
[↓] *
[→] *
[←] *
[PgUp]
[PgDn]

* on numeric keypad

() refers to keys on the PC / AT, where different

GENERAL KEYS

[C] Change coaches and coaching personas
[D] Delay speed adjust slow / NORMAL / fast
[E] Extra fast mode on / OFF
[F] Freeze game (press any key to continue)
[G] Graphics mode ON / off (RGB Color only)
[I] Instant replay ON / off (RGB Color only)
[L] Learn mode on / OFF
[M] Manual substitution mode on / OFF
[N] New game
[P] display Play names ON / off
[R] display Results (statistical)
[S] Sound ON / off
[U] Undo previous play
[V] VERBOSE / terse message switch
[W] Windows ON / off
[X] Exit program
[Alt] [S] Save game
[Alt] [R] Restore saved game

NOTE: The defaults are shown in capital letters.

MACINTOSH

THE MENU BAR

Apple Menu

About NFL Challenge

File Window

New
Open
Save
Quit

Game Menu

Freeze
/Continue [⌘] [F]
Statistics [⌘] [S]
Left Coach Box
Right Coach Box
Undo [⌘] [U]

Configuration Menu

Coach
Delay Speed
Play Windows
Sound
Keyboard

Option Menu

Learn [⌘] [L]
Extra Fast [⌘] [E]
Manual Subs [⌘] [M]
Graphics [⌘] [G]
Instant Replay [⌘] [I]
Verbose
Messages [⌘] [V]
Play Names [⌘] [P]

COACHES' KEYPADS

Left Keyboard and Config.

A keys

[1] to [9]. [0] Number keys
--- and ---
[1]. [2]. [3]
[Q]. [W]. [E]
[A]. [S]. [D]
[X]

[~]
[Tab]

[Z]
[2]
[S]
[Q]
[E]
[3]
[D]

Right Keyboard and Config.

B keys

[1] to [9]. [0] *
[1]. [2]. [3]
[Q]. [W]. [E]
[A]. [S]. [D]
[X]
Cancel keys [Backspace] [Clear] *
Return key [Return] [Enter] *
Coaching key [/] *
Up Arrow [8] *
Down Arrow [2] *
Left Arrow [4] *
Right Arrow [6] *
Page Up [9] *
Page Down [3] *

* on numeric keypad