

Pascal Occean, Technical Writer

John Berendsen, Supervisor

09/11/98

Letter Of Transmittal

To: Dr. Marjorie Davis

From: Pascal Occean

Date: September 10, 1998

To complete the requirements for graduation, I performed an internship during the summer of 1998 with ABL Canada. This report details what I performed and learned during this experience. I have also included samples of the documentation I worked on during the summer.

I am excited to say that I successfully met all the objectives that I had set for myself prior to this internship. This experience was highly educational, and I am proud of the progress I made as an individual.

I would like to thank you for giving me the necessary tools that I needed to succeed in this experience.

Sincerely,



Pascal Occean

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1 Introduction

During the summer of 1998, I performed an internship at ABL Canada in Montreal, Canada. This internship was an educational experience that enabled me to reach a certain level of confidence and maturity because it was my first job in the real world. At first, I did not think I would be able to live up to the expectations of my advisor, my supervisor, and my peers by accepting this job. As the summer went on, however, I gained confidence in myself and was able to apply the knowledge I had learned as a Technical Communication student at Mercer University.

I was hired as a junior level Technical Writer in charge of the documentation for various groups in the Engineering Department. I performed tasks such as editing, restructuring, reformatting and translating user manuals.

At the beginning of my internship, my supervisor, John Berendsen, hired me to be the Technical Writer for the DVT45 group, but the head of the Engineering Department decided otherwise and assigned me to work with all the groups.

The following pages give you a brief description of the company I worked for, the groups I worked with and the tasks I performed for the different managers of each group. ABL Canada was a good start for me in the real world. The company was not too big and my coworkers were extremely friendly.

About ABL

ABL Canada was founded in 1992 with its headquarters in Montreal. The company is a publicity-traded company listed in the Montreal and Toronto stock exchanges with offices in Canada, the United States and Europe.

ABL designs, manufactures and markets advanced terminals used for transmitting video and data over standard telecommunications networks. Worldwide leaders in the broadcast, cable-TV and telecommunications industries--such as Bell Canada, British Telecom, Telefonica Espana, MCI, Worldcom, Cox Communication and Korea Telecom--use ABL's products in over 50 countries.

How did I obtain the position?

I first started to look for an internship several months before the end of the spring semester of 1998. I knew I wanted to perform my internship in Montreal; therefore, I rapidly became affiliated with the Montreal Chapter of the Society for Technical Communication (STC). Then, I sent e-mails to each actively involved member of the organization to see whether anyone could help me. Fortunately, a former employee of ABL, Lyndsey Amott, wrote me back and told me that ABL was looking to hire a Technical Writer for the summer and that my scholastic background qualified me for a position. So, I contacted the company and submitted my resume to John Berendsen, who later asked me for an interview.

The Interview

Since I was in Macon during the time of the interview, the company decided to interview me over the phone. I was well prepared and ready for the interview as I anticipated and answered every question appropriately. Before the interview, I received guidance from Gene Wells at Career Services on how to prepare an interview; it extremely helped.

I think that preparation is the most important aspect to succeed in an interview. If you take the time to research the company and to prepare answers to some commonly asked questions during interviews, you should be successful.

I also enjoyed the interview because my personality clicked with my interviewer. He was very friendly, and he could fluently express himself in both French and English.

After the interview, I was positive that I had obtained the position. The next morning he called to tell me he was interested in hiring me for a summer internship position and that even though the company did not have a documentation department, someone would be available to answer my questions and concerns. I accepted his offer and waited for the contract.

My role as a Technical Writer

I was hired to work with the Engineering Department. Before my first day of work, I had a clear description of the task I would be doing during the summer, but everything changed after the first day I arrived.

My obligations included:

- Update the NX100 user manual
- Reformat Word documents for the VT34 and VT140 codecs
- Update and translate the help files for the DVT45
- Restructure the DVT45 product document

2 Narrative

As a summer intern at ABL Canada, I was hired as a junior level Technical Writer in charge of improving and updating existing technical documents for different engineering groups.

I was the first student ABL had ever hired for this job. Therefore, my supervisor, Mr. Berendsen, did not know specifically what type of work to give me. In his eyes, I was not an intern, but what he called a contractual Technical Writer, which put an enormous amount of pressure on my shoulders. From that day, I knew I would be on my own for the rest of the summer. As opposed to what he had told me in the interview, I quickly realized that no one in the company was competent enough to help me with the questions I had concerning the documentation aspect of the job.

Technically, Mr. Berendsen was my supervisor, but I only worked for him during the last three weeks of my internship. Instead, I updated and improved the documentation for managers of various engineering groups that included the NX100, the VT34, the VT140 and the DVT45.

NX100 Group

I spent my first few weeks working with Alain Dupond, manager of the NX100 group. The NX100 is a product used by telephone companies, designed to be installed in businesses, street cabinets and central offices. Basically, it is a multiplexer that enables people to talk on the phone using the same connection lines.

The company assigned me to work on this documentation because they were ready to send it to one of their clients in Hong-Kong, and they had modified the product since the last time it was documented. As a result, Mr. Dupond gave me the manual and instructed me on the changes that needed to be made to the document.

1. Make changes to the document

The first couple of changes I made were to ensure that at every place there was a component called STS-1 in the document, I had to add another component called OC-1 right next to it. I had to repeat this process in each of the seven chapters of the manual and do the same thing for two other components called DS1 and E1. This was an easy process with the help of the find and replace option of MS Word.

2. Editing

After making the necessary changes to the document, Mr. Dupond asked me to copy-edit the manual to make sure that nothing was overlooked during the writing process. He told me that this document had been written by the previous Technical Writer of the company, and that she was the only person that had edited the document for spelling and grammar. They took it for granted that she knew what she was doing because she was a professional in her field of expertise. Well, they were wrong to do so because I found some obvious typographical errors, and I thought it was funny that the company would have sent a document full of careless mistakes to its clients if I had not been there. At this point, I realized that ABL did not pay enough attention to its documentation. Whenever I would bring a document to the manager, he would partially revise it for a couple hours, and then either accept or reject some of the changes I had made. He would never spend time to check the editing that I had performed.

3. Printing

After copy-editing the document, I realized how difficult it was to print long documents. Since it was a long document, I had to make sure that every page was printed correctly. At first, I encountered many problems with printing because of my inexperience. Fortunately I figured everything out, and I was able to print the document on time.

With certain printers you have to be careful not to send too many pages at the same time because some printers have less memory than others. I would always recommend to send a couple of pages at a time instead of sending a whole document all at once.

VT34 Group

After working for the NX100 group, I was assigned to work with Francois Morin, the team manager of the VT34 and VT140 group. The VT34 is a product designed for applications such as video conferencing, remote surveillance, and interactive distance learning.

Mr. Morin needed my help on this documentation because he wanted to send it as soon as possible to his client, BK Telecom, in England, but the format of the document was too poor to do so.

The process used for documenting the VT34 was the same as the one used for the NX100: make necessary changes, edit and print the document.

1. Make changes to the document

This manual was previously written in their Ohio location; therefore, all the footers in the document were inappropriate to ABL Canada's standards. So, the first modification consisted of changing each header and footer to ABL Canada's standards.

Then, since the product had been improved since the last update, I had to insert new graphics in almost every chapter to replace the outdated ones. This was not a difficult task because the AutoCAD expert would alter the graphics and then give them to me to include in the document.

2. Editing

This time the editing process was a little bit more difficult. I was not only copy-editing the document, but I also had to ensure that the document was in compliance with the improved product. It took me a while to edit the document because there were some aspects of the product that I did not understand. However, Mr. Morin did a good job in explaining to me the basics of the product.

3. Printing

Since it was my second experience in printing, everything went very well. I did not encounter any problems and Mr. Morin was able to send the document to England.

VT140 Group

The VT140 group is also lead by Francois Morin. Its product is similar to the VT34 except that it is only used for videoconferencing. This time, since I was aware of the changes the manual needed it was easier to work on than the VT34 manual; it became an automatism. The only exception with the VT140 manual was that I had more reformatting to perform than with the VT34 manual. The person who wrote this document worked with Master documents in a previous version of Microsoft Word, and she forgot to write a "Read Me" file to explain what process she used to write this manual. As a result, the table of contents, the chapter numbering, and the page numbering were a big mess. I had to clean up everything and make the manual look presentable.

DVT45 Group

The DVT45 is a broadcast quality video codec that carries multichannel video between cities or within large metropolitan areas.

The team manager of the DVT45 was my supervisor, John Berendsen. Mr. Berendsen introduced me to the person I would be working with for the first two weeks, Mr. Pierre Blanchard. Mr. Blanchard is a Software developer; he knew nothing about technical writing.

The first project he assigned me was to update their online help system. This was my first experience working with online help; therefore, I had to learn how the software worked before implementing any changes to the text. The company used DocToHelp to compile doc files into help files. It is a very useful and user friendly software that resembles to RoboHelp.

Since Mr. Blanchard did not speak English well, he gave me the documentation in French and I had to translate it to English. I am grateful that the company gave me this opportunity because translation is an area I would like to orientate my career. I enjoyed that experience very much, but I also realized how complex translation could be. I now understand why a certificate in translation is required in Canada in order to become a certified translator. However, I think that although I was not certified in translation, I still did a good job.

The second project Mr. Berendsen assigned me to work on was to restructure their Software User's manual. I thought this project, along with my translation experience, was the most interesting and educational project I worked on this summer.

The problem was that they had their manual written in FrameMaker, but the company decided that every group should only use MS Word for their documentation. Therefore, my assignment was to convert the manual written in FrameMaker to a MS Word manual.

I did not know anything about FrameMaker before starting my internship, but I quickly learned it and realized how powerful it could be. The conversion went very well. Since Frame and Word are made from two different software companies, I had to cut and paste parts of the Frame document into MS Word and then reformat the whole document in Word. This is where I learned how to set up a template in order to apply different styles throughout the document. I also had to draw graphics that had been lost through the conversion. To draw those graphics, I learned a software called Visio. Visio is a very easy and user friendly software, and I had no problems in learning it since I already had some experience with other similar software.

I was very happy to have worked on the DVT45 project because it enabled me to learn new things. Before I worked on this project, I thought my internship was just a waste of time, and that I was only hired to update Word documents. I now consider myself very lucky to have obtained the opportunity to learn various software in such a short period of time. These software applications are very common and frequently used by Technical Communicators.

3 Analysis and Evaluation

Performance Level Achieved

I think that I was quite successful in my first internship experience. I was able to accomplish all the tasks I was asked to do in a proper and successful manner. Upon review of the original objectives set at the beginning of my internship, I feel that I succeeded in most of them.

The only aspect that I may have failed was my understanding of the field of telecommunications. With three weeks left of my internship, I had to write a user manual for one of the groups, but I failed to do so because I could not understand the product. I think telecommunications is a very interesting field, but it would take more than three months to grasp all the concepts behind the products.

Overall, I feel that I was very successful in my internship because I learned many tools that will be helpful for me in the future, and I also learned how to function independently in a real company. To me, learning and gaining confidence in my skills are the two most important factors in evaluating success.

PROS AND CONS OF MY INTERNSHIP

PROS	CONS
Experience in the work field	No supervisor to help you
Learn new computer software	No documentation department
Improve interpersonal skills	Schedule conflicts with other employees
Learn to be self-sufficient	Traffic jams
Flexible schedule	
Good salary as a student	

Questions or Concerns

The main concern I have is with my supervisor's evaluation of me. He was not around most of the summer to answer my questions or to evaluate my work; therefore, I do not understand how he could have filled the checklist that Dr. Davis gave us. In some places on that checklist he gave me an average grade, but I know I deserved a much better grade. Also, since I was the first intern to ever be hired as a Technical Writer, he admitted that he did not know upon what basis to grade me.

Observations and Reflections

This internship was highly educational. It enabled me to learn many software that are useful to Technical Communicators such as Visio, FrameMaker and DocToHelp. I have also been extremely successful in improving my knowledge of MS Word. I learned many shortcuts that I had never used before. I learned how to use Master documents, how to set up templates and, more importantly how to understand the software. I now realize that I would be capable of teaching it.

I think this internship increased my self-confidence. Before interning with ABL Canada I was not convinced about the skills I had gained at Mercer. Also, with English being my third language, I was scared of not being efficient enough for the company. I was scared because writing or editing a document in the real world is much more stressful than the work at school. Therefore, at the beginning of my internship my main fear was failure. I was scared of not being able to do the work and getting fired after a couple of weeks. I now feel more confident about myself. Although I still struggle sometimes with my English, I feel more confident about my skills as a Technical Writer. I have a better sense of what I need to work on and where to direct my career.

I am extremely grateful that the Technical Communication department encouraged me to find an internship. I am pleased with the education I obtained at Mercer University and I know that the basic skills that I received in the Technical Communication department will help me not only in a Technical Communication field, but in other aspects of my life as well.

4 Recommendations

The vast majority of educational background provided to us by the Technical Communication department was extremely helpful during my internship. Dr. Davis, Mrs. Grady, and the staff did a good job in preparing us for the real world. The only thing that I would recommend would be to spend a little bit more time in the desktop publishing class learning how to set up templates to prepare us for writing manuals. I found it pretty difficult to set up each of my styles. The experience we had in desktop publishing was not enough for me to do it. I had to seek help from a Technical Writer that I already knew.

Appendix A

Daily Journal

05/11/98

Today was the first day of my internship with ABL Canada. I was really nervous at first because it was my first real-world job experience. When I got in the company, my stress rapidly disappeared. I could not do much during the first day because I had to go through a training session with some of the engineers to get acquainted with the products I was going to work on. My supervisor, John Berendsen, was absent for most part of the day; therefore, I had to ask my questions to another gentleman named Alain Dupond. Mr. Dupond gave me a big manual about the product that I will have to write about and told me to read it and to try to understand the product. Basically, what he was telling me was to learn as I went through the manual.

So I spent most part of the day reading this document and trying to understand it, which was pretty difficult due to its technicality.

I was also happy to receive the computer that I'll be working on for the rest of the summer. I will be able to work on my own PC without having to share with my coworkers.

05/12/98

Today has been pretty productive for a second day. I already started to update part of the documentation for the NX 100, and I have already encountered some computer problems.

I have been assigned to work with the group working on the NX 100. Four group constitute the engineering department; the NX 100, the VT34, the VT45 and the switch. Right now, I'm responsible for the documentation of the NX 100 product.

I have to include a component called DS1 at any place that there is another component called E1. The reason why I'm doing so is because they are getting ready to send their manual in Hong-Kong, and they improved their product since the last time the manual was written.

I encountered a couple of problems while saving my documents. First, my computer was very slow, then the computer crashed at approximately every ten minutes. I could not get a hold of the technical support department; however, I still managed to do enough. I finally realized that my computer problems were happening because the documents were read-only, and I had to make a copy to my account in order to be able to save something.

Even if today was a frustrating day due to computer problems, I think I'm in good shape for finishing updating this document in time.

5/13/98

Today was a very normal day. I had to continue working on the project I was assigned, but it was nothing that was too difficult. I made the according changes to the document, and I will meet with my supervisor to go over it.

One thing I noticed is that workers here can help me with the technical things, but when it comes to questions about the software I use, MS Word, they are clueless. Whenever I have a question, I have to report to a technical writer who doesn't work here anymore. Her name is Lyndsey Amott, she is really nice.

The bad thing about the job is the traffic I get every morning and every afternoon. It is terrible.

05/14/98

Today was a very long and tedious day at work. I had to do the same thing over and over again throughout the day. I had to cut part of some text and paste it somewhere else. I also had to check for consistency in a 400 pages manual. It was long, but the day flew by very fast.

I found that it was really difficult after a couple of hours to remain focus when you are editing for consistency. Nevertheless, I found many typographical errors, and I am glad that I took the technical editing class offered by the TCO department at school. It helped me a lot throughout my job today.

A good thing that happened today was that I received my first pay check. It felt good to get all that money. I'm already ready to spend most of it. Hey! it's the first pay check.

05/15/98

Today is Friday and I'm really looking forward to the week-end. I'm very tired because my days were a combination of work and soccer. I'll finally get a rest.

I haven't done much today because I met with the manager of the NX100 for him to go over the changes I made. I apparently did a good job because the only mistakes I made were due to the fact that I didn't know this highly technical product and he was not precise in explaining some of the changes that I had to make.

I offered to get more work otherwise I would get bored, but he said that there was nothing to do for me at this time because he had to meet with his supervisor to make final decisions about certain changes.

One of my coworkers asked me if I knew anything about the Master document option in MS Word. I did not know anything about it, but I went on the help file and I quickly learned. I quickly learned that the Master document option in MS Word is very buggy.

It seldom works. I think that Word does not support big documents to well. I think FrameMaker would make a better job.

One aspect I found interesting this week is that I'm always learning something new. It could be something in the telecommunication world or something concerning the software, but I'm always learning.

05/18/98

Holiday.

05/19/98

Today was a very quiet day. My supervisor and his boss had to review the changes that I made to the document; therefore, I did not have anything to do for most part of the day. They told me that it was normal for the first couple of weeks, and that things would get busier within the next couple of weeks.

05/20/98

Today I realized how printing long documents can be a long, tedious and difficult process. I had to start printing the manual I had made changes in, and it was not easy. The printer kept on going crazy. It kept on cutting my graphics halfway through the page, and this would drive me nuts. Finally, I learned that it was better to send a couple of pages at a time, at a lower resolution in order to get good result. It's longer that way, but at least you don't make mistakes.

I also had to go through editing. Thank God I took the technical editing class with Miss Grady. It's really helping me right now. I don't know what I would have done without taking it.

05/21/98

Today was a very busy day. I had problems in printing the rest of the document. It took a while for me to figure out what was wrong with the printer. Finally, I had to print the document little by little for it not to mess up the graphics. In the end, I printed an 800 pages manual. I can really say now that printing is the worst task of a technical writer.

Besides that, there was nothing too exciting about my day. I am getting ready to leave and attack the traffic.

05/22/98

Today was a very quiet day at work. I finished reviewing and editing the manual, and I gave it to my supervisor for a final review. I did not learn anything that I did not know already. It was some very simple minor copy-editing. I can not yet do any comprehensive editing because the document is highly technical and I don't understand much of it. Again, thank God for the Technical Editing class. It helps me a lot.

05/26/98

Today was a pretty busy day at work. I was assigned to do documentation for another group, the VT34, which is a broadband Video Codec. Basically, all I have to do for this manual is to update and reformat it because it was originally written in a lower version. This manual will be sent later this summer to England. Right now, it is a big mess, and I have to clean it up.

I also helped the chief engineer working on a master document. He had a problem with his master documents, and I solved it. I was pretty happy about myself.

05/27/98

Today was a normal day at work. I continued working on updating and reformatting the VT34 manual. I did not encounter any problems. It was just long and tedious. I had to change all the headers and all the footers. The document was previously written in Mentor, OH; as a result, all the footers have the address of the Ohio company. My supervisor wanted me to change the footers so that they could have our address.

That's all I did today, so there is really nothing much to write about.

05/28/98

Today was a normal day at work. I did the same thing that I did yesterday, i.e. make sure that all the headers and footers were consistent to the company's logo. Besides that, I had a little problem. I had to insert an AutoCAD graphic into the text, but the graphic that they gave me was in the wrong orientation. It took me a while to figure out that there were no ways to rotate a graphic in MS Word. As a result, I think we'll have to change the orientation of the graphic back in AutoCAD. Since they know I have an AutoCAD background, they will let me do it.

05/29/98

Today like every Friday was a quiet day at work. I had to finish updating the manual, by adding the graphics altered by AutoCAD. Then, I started printing the document. It did not take me as long as the last time I tried to print a long document because I knew how to handle the printing job.

Besides that, I did not do anything. It's Friday.

06/01/98

Today was a very busy day for me at work. Both leaders of the projects I was working asked me to modify some things in their manual. Therefore, I had to manage my time efficiently in order to perform the tasks that I was asked to do.

Also, I now find it more difficult because I have to get used to the field of telecommunications in order to write documentation for the targeted audience. It's really technical, and it takes time to get used to the products (especially when you are always shipped to work on other products).

06/02/98

Today, I had to continue updating the VT34 manual. I did not really learn anything because I did the same thing I did yesterday.

06/03/98

Today, I wrote an entire chapter on the VT34 manual. It was not too difficult because the engineers gave me the proper documents and all I had to do was to combine some ideas from different chapters. At least I wrote some stuff and I did something different for a change.

One thing I could not do was to give the chapter my own style. I had to keep the style of the manual and make sure that the chapter that I was writing had the same style as the other chapters.

Overall it was a good day, like all Fridays.

06/04/98

Today, my group supervisor gave me another set of changes to bring to the manual. It took me the whole day to do that. This manual will be manufactured in England by the end of this month. I am really proud to be a major part of the team that has worked on that documentation. You should see the mess in that document. I feel like I am a maid. I have to clean up the mess. I can't believe some people actually manufactured documents like this one.

06/08/98

Today was a really long and boring day. All I had to do was to put the final changes and revisions into the document to make sure I did not miss anything.

There is nothing else to say about my day.

06/09/98

Today was a very busy day. I got a new manual to update, the VT140. Basically this manual resembles to the VT34 in its format, but for some reasons there are lots of bugs in it. That manual was written in the Ohio plant using a lower version of the software and using Master documents. I will have to reformat and update this manual so that it will look good enough to be sent to their plant in the U.K..

I like when that happens because usually I can fix all these little problems. Others in the engineering department think that it's pointless to spend time on them, so they come to me for help, and I save the day. They appreciate me a lot more after that, especially considering the fact that I am just an intern.

I should be busy for the next two weeks working on this manual.

06/10/98

Today was a fun day at work. I did the usual thing, but our boss exempted us for two hours to go watch the World Cup Soccer opening game between Brazil and Scotland. I was so happy. That game made my day.

Besides that, there is nothing new.

06/11/98

Holiday.

06/16/98

Today I had to review the changes I made to the VT140 manual. I did this for the most part of the day. It was not difficult, but it was long because I had to make sure that everything was consistent the company's style.

Also, I have been assigned to a new project, which is maintaining the on-line help for the DVT45. I don't really know exactly what I have to do right now because I have to install the doctohelp software on my computer and it's not really working. We'll see tomorrow.

06/17/98

Today, I had to familiarize myself with the doctohelp software in order to create on-line help. I found that it was not a too difficult software, and that I don't think I will have too many problems with it.

Basically, this software is all about setting your styles correctly in order to be able to link them with the help file. It's not anything different from what I have done so far.

I find that all of the software oriented computer science classes have been very helpful to me as far as quickly understand how different software work. I think that I have been privileged to have such classes because for the rest of my life I will have to learn new software packages. The TCO department at Mercer University did a good job in giving us the basic knowledge and letting us work with the rest.

06/18/98

The on-line help project kept me pretty busy today. We had problems because my supervisor thought we had to use the MS Word 6 version to compile the file. So we spent half of the day trying to make it work. Then, I decided to go ahead and use MS Word 97 and it worked. I was pretty proud of myself. Finally I can say that I have learned something. The on-line help project is not as easy as I thought it would be, especially when you have to deal with indexing.

06/19/98

Today, I had to compile the on-line help to see whether the changes I had made worked. As usual, they did, but I had to bring more changes to the document because my supervisor had forgotten to tell me to change some parts of the text.

Then, at about 1:30pm, the supervisor from the group I was working with the first time I got here, asked me to print the whole NX100 manual by the end of the afternoon. I had to print 800 pages in three hours. I had to be really meticulous with the printer to make sure that there would not be any print overrun. I succeeded, and I'm now ready to go home.

06/22/98

Today, I had to make the final changes to the VT34 manual before they ship it to England. That was pretty easy considering that I did not have much changes to bring.

Then, I worked on the on-line help for the DVT45. I had to write a whole section. I'm not finished yet. I should be done by tomorrow.

06/23/98

Today, I had to work on the on-line help, but with a little modification. I had to translate text from French to English. I realized that this was not an easy task. It took me the whole day to translate this document. I learned a lot through that experience though. I learned that it was better to translate for context rather than word for word because certain sentence patterns are different in English and in French. I was pretty happy to finally get the chance to translate a document because I wanted to see how difficult it was. Translation is not easy. It's easier when you have to translate orally, but when it comes to write it out, it's a different process. It is way more technical.

This translating experience was really helpful to me because it gave me an idea of the field of translation. Now, I really think I would rather leaned towards this side of Technical Communication rather than doing straight Technical Writing. The beauty of translation is that you don't have to come up with the idea of the text. The text is already written, and all you have to do is to translate in another language so that other people can understand.

To do so, however, I think I will have to do a certificate in translation because I realized that I had much more to learn to be able to translate like a professional.

06/24/98

Today was a holiday.

06/25/98

Today, the supervisor of the VT140 group came by and gave me the list of final changes I had to make before they get ready to send the document to England. This was not a too difficult task, but I encountered some problems with the first chapter. All the reformatting I had done previously had been changed for no reason. This was a Master document, and as I said before, Master documents in MS Word don't work too well. It messes up the table of contents at least 4 times out of 5.

So that's all I did today. I'm getting used to do this; therefore, I do it a lot faster. The only problem is that it is long, tedious and boring. I am not learning anything that I have not found out by myself.

06/26/98

Today, I had some minor changes to bring to the VT34 and VT140 product manuals. Reformatting and updating manuals is an easy task. I feel like I have not been challenged yet. The on-line help experience was good, but it went by too fast. I quickly grasped the concept, and managed to do well on that project.

The problem with my internship is that they can not let me write a whole manual because their products are too complex to be learned in a matter a three months. I can only reformat, edit, update, and write new chapters to certain manuals.

I wish someone could show me how to set up professional templates. Right now, I'm doing it by myself, but I don't know whether it is the right way. Now, I understand why Dr. Davis wanted us to work under other Technical Writers. Here in my company, I get a feel of what it is like to be a contract Technical Writer, which is not bad, but I think that it is better to start working for a company that has a documentation department to get some experience, and then work as a contractor for several companies.

06/30/98

Today, I have been assigned to a new project. I have to restructure two manuals into one using FrameMaker. The only problem is that I have never used FrameMaker, so I took the book and I tried to familiarize myself with it. The other problem that I encountered was that the technical support person has not yet installed the software on my computer; therefore, I can't start working on the new project until he does so. So right now, I'm in the reading process.

07/01/98

Today was Canada Day. No companies were opened.

07/06/98

Today, I wrote an entire chapter for the NX 100 manual. It was not too difficult. All I had to do was to keep the same format as the previous chapters, and put the data's into words so that people can understand. I think that the writing part is not too difficult. The most difficult thing is dealing with the computer bugs, when dealing with applying different styles at the right places.

07/07/98

Today, I really kept myself busy. I started on a new project, the DVT45. I have to convert files written in FrameMaker to Microsoft Word. The reason why I'm doing this is because my supervisor wants to uniform all his documentation using MS Word. He feels more comfortable using Word.

It's not that simple because they are not compatible. I have to copy text from FrameMaker, then paste it into MS Word. The problems that I have encountered, came from the graphics. When you paste a selection from Frame into Word, MS Word does not recognize the graphics.

07/08/98

I was in the Hospital.

07/09/98

Today, everything went well. I continued on converting the Frame document into a MS Word document. It's a really long and tedious process because I have to copy parts of the FrameMaker document and paste it into Words to make it a new Word document. The problem is that when I paste it in Word, it pastes as a whole block; therefore, I have to reformat it. Also, I still don't know what I'm gonna do with the graphics. We'll see when I'll get there.

I think it's a really good experience to be able to deal with software like FrameMaker. I did not know anything about FrameMaker before and I find that it's a pretty powerful software for documentation. I still don't understand why my company wants to switch the whole format to Word. They don't seem to understand that FrameMaker is better for big documents. Of course it has its bugs, like you can only undo once, so that's really annoying when you know you have made some mistakes.

I seriously realized that I was one of the most versatile workers here when it came to software. Here, my co-workers know a lot in maybe one or two software program, but as a whole, they are clueless. I think that an important asset that us Technical Communicators have compared to the others. We have the ability to quickly learn software packages.

07/10/98

Today, I continued on transferring FrameMaker text into a Word Format. It's a long process because I have to convert the text and then reformat it to Word. Not to say that the graphics have not transferred so that will be a problem that I will have to deal with my supervisor.

Then, in the afternoon my supervisor introduced me to a man that I will be working for starting from next week. His name is Chuck Gauvin. He is the software development leader for the Switch product. I will have to rewrite the whole manual. I have a meeting with him Monday morning, but I'm a little bit anxious. I am not even done with the project I was working on, and they give me another big project while I only have three weeks left to my internship. I feel kind of exploited.

07/13/98

Today, I met with my new project leader for the part of the manual I am about to write. He had to explain me in general how the Switch product worked. It seems like it is a really interesting product. Basically now I understand some of the basics of the telecommunication field. I can see everything that enables the telephone and cable companies to stay in business. It's weird because you always hear about the big companies, but you never hear about the little ones that do all the work and sell it to the bigger ones. Basically that's what ABL does.

By the way, the product I am working on right now, the Switch 16/16, was used in the World Cup this summer to enable people all over Europe to watch the same station at the same time.

07/14/98

Today I started on writing my first instruction manual. I don't think it will be a long manual, but at least I started something. I was and I still am a bit nervous in writing it. I think that the writing is not too difficult. The difficult part about it is to format the text so that it can be clear, and keep it as simple as possible. What might seem obvious to you might not be the same for others.

I think that the thought process in how you are going to write your instructions is the most important aspect. I don't have anybody to show me the basics of writing instructions, and I haven't taken the class offered in school yet. But I based myself on various instructions from different companies to base myself on.

I can now really feel the liaison that we talked about in school. When I was updating manuals, I could not feel it because I was just working on a manual that was already written. Now, I'm the one writing or trying to write!!!

07/15/98

This morning, I was waiting on the supervisor of the new project to give me some feedback on what I wrote the day before, and he never showed up. So I called him, and he never called me back. That's what I hate about this company. There is no structure for me. I had a work summary sheet when I got the contract with the company, and I ended up doing only one task that was on that sheet. They are so unorganized. If they'd offer me a job, I'm certain that I would refuse.

So, while I was waiting on the supervisor, I decided to continue working on the project I was working on before I started the Switch project, the DVT45. I had to insert some tables that were missing because they did not transfer from FrameMaker, and I had to format the headers and the footers. I'm getting really good at that.

One thing I noticed. I don't really want to be a Technical Writer, but I find that in order to become a Technical Trainer or Tranlator, let's say for a certain software, it's good to have a Technical Writing experience. You approach things in a different way afterwards. You learn to analyze and ask yourself some questions first about how the audience will perceive what you are writing or delivering. I also find that I really improved my knowledge of MS Word. I learned DocToHelp, FrameMaker, and Visio.

Although the company I'm working for is not really recommended for Technical Writers, I can say that so far, I have learned a lot.

07/16/98

Today, I worked on the Switch Manual. I think it's really difficult because I have to start writing part of this manual from scratch, and I have only two and a half weeks left. The most difficult aspect of it is understanding the product, hardware and software, in order to be able to write. I think that if I had two more months, I would be able to write something really good, but since I only have two and a half weeks left, I'll just start something and they will have to take over the work I did after.

07/17/98

I did not do anything different from yesterday today. I work on the Switch manual. I inserted some pictures and wrote a couple of pages.

07/20/98

Two weeks from finishing my internship, I found out the most difficult aspect of a technical writing job, which is understanding the whole concept of the product before writing. In order to write something about certain features of the Switch, I have to learn how it works. Let me tell you that for the first time in my life I feel stuck. I understand a little bit how it works, but I can't seem to explain it due to the fact that I don't understand it perfectly. I don't want to start writing something that I don't fully master. For the first time this summer, I'm scared of what I'm going to do.

07/21/98

Today, everything went well until I had my little meeting with the person that I'm writing the manual for. He expects me to grasp something that took one of his engineer interns three weeks to learn in just a couple of days for me. I don't know the product as well as them and he wants me to write something dissent about it. It peeves me. I have not yet taken the instructions and manual course, but right now, I wish I had taken it. Now, I'm going by what I have seen in previous manuals. I wish I could know the methods that ones goes through before actually he or she starts to write something.

Everything was going so well this summer until they gave me this project. It makes me hate the company. The problem is that I don't have any Technical Writers to help me or to lead me. It's just me, myself, and I.

07/22/98

Today was a much better day. I did not work on the Switch Manual, but instead, I continued working on restructuring the DVT45 manual. This is at least a task that I know I can perform. I just realized today that the tasks I have done this summer were aimed at Junior Technical Writers. I had never noticed that on the contract. If what I did this summer is for Junior Technical Writers, I don't want to know what entry level Technical Writers do. That's one thing that was positive for me this summer is that I learned how to be independent. I don't need to depend on others to do my work. I can't say that I have worked in a team this summer because I was always working for different group and they all wanted a share of my work. The aspect I wished I had here is being in a technical writer team. I would have like to see the different process in which you can create a manual.

Basically this summer, I worked as a contract Technical Writer. I can't say that I was an intern because no one treated me as an intern.

My supervisor was not really a supervisor because all he did for me was signing the time sheets. He did not help or assist me in any of my work. I don't even know whether I did a good job or not in what I did.

07/23/98

Today, I continued working on restructuring the DVT45 manual. That was a long, but not difficult task. Then, in the afternoon, my supervisor asked me to come into his office. This did not seem like good news because it was the first time that he had asked me in his office for the summer. He asked me how I felt about writing the Switch manual. I told him that I really hated it, and that I did not feel comfortable enough to grasp the concept of the product and to write it in a matter of two and a half weeks. The reason why he asked me this is because the person I was working under for the Switch manual was not too happy of my writing. He had all the reasons not to be happy because I did not understand most of what I was writing. I told him before starting and he told me to go ahead and start writing anyway. I have to admit that at that point I panicked. I forgot everything that had been taught to me at school. Define your purpose, your audience, and so on. I have to admit that from the beginning I had a miscommunication problem with Chuck because I did not even know what was the document for. At first he told me to write one document, and then he asked me to start on another one. He was hardly ever available to answer my questions; therefore, I did not know what to do.

I completely panicked and forgot about all the basic guidelines that I was taught in school. I just tried to write something for the person following me

to continue. As bad as that experience was, I have to admit that I have learned a lot from it. I have learned to never start writing a document, no matter what it is, without following the general basic guidelines such as defining the purpose, the scope and your audience.

07/27/98

Today, I continued on restructuring the DVT45 manual. It's not a difficult task to do at this point in my internship because now, I'm more accustomed to the software and it takes me less time to do the work. Now, what used to take me three days at the beginning of my internship only takes me one to do.

The job I'm doing is important because had I not been there, no one would have done it. Whenever the company adds some feature in their software, they do not change the documentation alongside with the additions. They write the documentation about these improvements in separate addendum and send it to the client with the addendum. I think it's not too professional to do so; therefore, the job of a Technical Writer is to update this manuals from the content that is included in these addendum so that the company can be more up-to-date in their documentation.

I am positive that if I had not been there, they would have let one of the engineers to do that job, and since almost all engineers hate to work in documentation, the work would not have been well performed. I think this company should hire at least one permanent Technical Writer. They have so much documentation to write or to update. It wouldn't hurt them.

Now, I think they hired me to do the work because they could save some money with me instead of spending it for a real contract Technical Writer.

07/30/98

Today was a very busy and fun day for me. My real supervisor gave me the document back with the changes I had to bring to it. He had also brought some changes to it so I had to change some of the graphics. That's where my experience in computer graphic came in handy. I had to draw or alter some graphics using a software called Visio. I learned this software in a matter of minutes due to its resemblance to some software I had used before. I really had fun drawing and altering the graphics. By doing this today, I think that it really help me in finding out where I would mostly see myself as a Technical Communicator. I think that I would be better in training or in translation rather than being a Technical Writer. I can't stand being seated in a cube for a whole day. I need movement.

I think that being an athlete has a lot to do with that behavior. I'm more energetic than passive and quiet.

As a whole, I think that restructuring that DVT45 manual was a good experience because I got to learn so much. I learned a lot about both FrameMaker and MS Word, I learned Visio, and I learned and applied how to set up a template. If I had known what I know right now at the beginning of this summer, I don't know whether the company would have had enough work for me to do this summer as for restructuring or reformatting documents.

I am glad that this summer I only did some minor writing like including a chapter or some paragraphs to a pre-existing document. Now, I feel confident enough to go into the instructions and manuals class.

07/31/98

Today, I showed the final product of the document I restructured to my supervisor. He approved it and I was really happy. He asked me whether I could start on a project real quick before I leave. Basically, I have to combine the manual version and the help version in one document. There is a little tag in Doctohelp that enables you to select which item goes into the manual and which goes into the help. It's pretty interesting, but I don't think that I'll be finished by Wednesday.

I think they want me to start on it because it will save them some time. If I had not been there, an engineer would have done it instead of me. I don't think engineers like to document too much.

08/03/98

Today I did not do too much because it's the day before my last day. I had to take care of some administrative things, and clean my account on the network to give my work to the appropriate supervisors.

I just realized today that I spent the last three weeks reformatting the manual when it could have taken me one. The reason for this is because I just found out on doctohelp that there was a tag that enabled you to switch from the help version to the manual version. Since earlier on this summer I had worked on the help version, it would have been faster to reformat the manual version because the updating would have already been done.

I asked them why they did not tell me that I could do that before, and they told me because they were not sure whether it would work or not or whether I would be able to finish in time. I hope they are happy with what I did this summer because this company really has no structure whatsoever when it comes to documentation. They are so unorganized in their things. They seriously need to hire a full time technical writer to take care of business.

Overall, my experience with ABL was good and educative. I learned a lot and it also helped me a lot with my confidence. I will not be scared of going into the work place after I graduate because now, I know I can handle it. This internship also helped me find out what I like and what I don't like. I pretty much thought before this internship that I would not like the job of a Technical Writer. Now I know that I won't like it. At least not for the next five to ten years. I can't stand sitting at the same place for the whole day.

08/04/98

Today is my last day at work. I received my evaluation from my supervisor. The evaluation he gave me was what I expected. In the check list that was given to us by Dr. Davis, he gave me an acceptable evaluation although he told me that in some sections he evaluated me with a lack of proof. In some part, like my ability to learn, and my organizing, I don't see how he could have evaluated me because I almost have never dealt with him. The only time I worked with him was for the last three weeks of my internship, and even then, I would only report to him with a finished work. He told me that when he did not have enough proof to evaluate me, he gave me an average grade. Elsewhere, I always got in the top two of the list.

For the written evaluation, he wrote what I expected him to write. I don't have any comment on what he wrote because I totally agree with him with what he wrote. I will also take the suggested improvements in a positive way in order to improve in my future profession.

What I really appreciated about my supervisor is that he really backed me up when I had to write that user manual for the Switch project. He clearly saw that I was not yet ready for that type of project given the amount of time that I had left to my internship.

Now I think this internship was a great experience and I thank Dr.Davis for giving us the opportunity to do such a thing instead of a Senior project. At first I had some reservations in having so much responsibility, but now I think I'm confident enough to accept any kind of job. I don't really want to work as a Technical Writer because I don't think that desk job is suited for me, but at least I can say that I have had a really job. I used to work at soccer camp making a good salary, but it just was not the same. Now, when I say that I'm a Technical Writer, people have a lot more respect for me. I feel important and superior than any other student of my age that works at the supermarket for instance.

Appendix B

Sample Work

NX100

NX100
SONET Fiber-Optic Terminal
Network Controller Installation and Administration

NX100 SONET Fiber-Optic Terminal

Network Controller Installation and

Administration

903-50426-003

Revision 02

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August 1997

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Publication History

August 1997 Second release of this document. This document applies to firmware/software release V3.3 and higher.

This document has been completely revised to correspond to V3.3 of the user interface (the Network Controller). This version (V3.3) of the Network Controller was designed to accommodate the new features of the NX100 and to improve usability.

November 1996 First release of this document. This document applies to firmware/software release V3.1 and lower.

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About this Document

This document contains instructions for the installation and administration of the Network Controller. The information in this document is intended for network administrators and other network services personnel. This document is part of a series of documents that supports ABL's NX100 line of products.

Documents in the NX100 Suite

NX100 documentation consists of the following documents.

Number	Title
903-50426-001	<i>NX100 SONET Fiber-Optic Terminal Product Description</i> Describes the NX100 and its components.
903-50426-002	<i>NX100 SONET Fiber-Optic Terminal Hardware Installation Procedures</i> Provides instructions on installing and wiring each type of NX100 enclosure.
903-50426-003	<i>NX100 SONET Fiber-Optic Terminal Network Controller Installation and Administration</i> Provides instructions on installing the Network Controller software and firmware, and on user-administration.
903-50426-004	<i>NX100 SONET Fiber-Optic Terminal Network Controller Network Provisioning</i> Provides instructions on using the Network Controller software and firmware to provision an NX100 network.
903-50426-005	<i>NX100 SONET Fiber-Optic Terminal Terminal Mode Network Provisioning</i> Provides instructions on provisioning an NX100 network from a VT100 terminal using terminal mode commands.

—continued—

Table continued from previous page.

Number	Title
903-50426-006	<i>NX100 SONET Fiber-Optic Terminal Alarms and Alarm-Clearing Procedures</i> Describes how to locate the cause of NX100 alarms and provides instructions on clearing them.
903-50426-007	<i>NX100 SONET Fiber-Optic Terminal Maintenance and Component Replacement Procedures</i> Provides instructions on maintaining an NX100 and on replacing parts.
End	

References in this Document

The following document is referred to in this document.

Number	Title
903-50426-004	<i>NX100 SONET Fiber-Optic Terminal Network Controller Network Provisioning</i>
End	

Precautionary Messages and their Significance

Situations that may put you in danger or that may cause equipment damage or interrupted service are brought to your attention with precautionary messages. When you see a precautionary message, be especially attentive to its message and to the instructions that follow it.

There are three types of precautionary messages:

- **DANGER** Possibility of injury
- **WARNING** Possibility of equipment damage
- **CAUTION** Possibility of service interruption or degradation

Examples of the precautionary messages are shown below.

DANGER—radiation

Invisible laser radiation is emitted from the optical connection ports when protection caps or optical connectors are removed. Avoid direct exposure to the beam.

WARNING—damage to backplane

Wear a wrist-strap if performing this procedure with power on. Failure to do so could result in damage to the backplane.

CAUTION—loss of communication

Communication with the remote unit is lost if the DCC port is set to OFF.

1 Installing the Network Controller

The Network Controller provides the means of communication with one or more NX100 networks. Network operators use the Network Controller to monitor and maintain NX100 networks.

The Network Controller can support simultaneously up to 200 networks, each of which is represented on the monitor by a window containing unit icons. These network icons not only show the configuration of the networks, but also, if you are using a colour monitor, they provide a real-time visual summary of the network; that is, coloured indicators on each icon permit you to see at a glance the status of every NX100 and every network.

Note: The NX100 is also referred to as the unit in this document.

Before installing the Network Controller, ensure that you have the following equipment:

- 486 DX2 66 MHz or better with 8 MB of RAM and 2 MB of free space on the hard disk
- 3.5-in. floppy drive
- Windows 3.1 or Windows 95
- Windows-compatible mouse or pointing device
- (optional) Star Gate ACL II+ RS-485 serial expansion board and RS-485 communications cables

Installing the Set-Up Program

Use this procedure to install the Network Controller.

Note: At any time during the installation process, you can click the Cancel button to abort the installation. If you click Cancel, all files and directories created by the installation program are removed from the hard disk.

To run the set-up program, proceed as follows:

1. If desired, install the Star Gate ACL II+ RS-485 serial expansion board and associated software.

Note: For information about installing the Star Gate ACL II+ RS-485 serial expansion board, refer to the manuals that are provided with the Star Gate board.

2. Insert the installation disk in the floppy disk drive.
3. Run the SETUP.EXE program and follow the on-line instructions.

The Network Controller File System

The Network Controller uses the following directories (upper case) and files (lower case):

C:\ABL

BIN – **oc1man.exe**, **oc1man.ini**, **english.dll**, **ctl3d.dll**, **acsl.dll**, and other ACL files

DATA – **oc1man.gf**, **oc1man.uf**

DOWNLOAD – **v3.3.0.dwn**, **v3.3.0.inf**

LOG – **yyyyddmm.log**

Session Files (.ses)

Figure 1-1 File structure of the Network Controller

Note: The download directory is empty until you install software. See “Installing the Control Program” on page 23 for instructions on installing the control program.

2 Running the Network Controller

To start the Network Controller, double-click the Network Controller icon or run the Network Controller program from the Start menu or Program Manager.

Logging In

Once it is started, the Network Controller displays the Login dialog box.

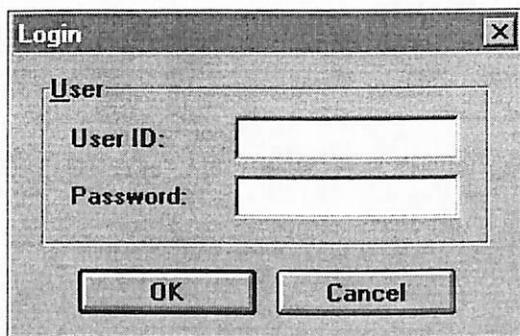


Figure 2-1 Login dialog box

Type your user ID in the User ID field. Press the Tab key to move to the Password field, then type your password and click OK.

Note: The Network Controller is installed with the default user ID and password of system. When logging in for the first time, type system in both fields and click the OK button. For information about changing passwords, see “Changing Passwords” on page 17.

All log-in attempts are recorded in the log file. The application closes automatically after the third unsuccessful log-in attempt.

After a successful log-in, the Network Controller menu appears. After you log in, you must either create a new session file by selecting File | New or open an existing one by selecting File | Open. By default, the Network Controller opens the last saved session.

Closing a Session and Logging Out

To close the current session, but maintain access to menu commands, select Close from the File menu. If you made any changes during the session, the Network Controller asks you if you want to save your session. Likewise, the Network Controller prompts you to save your session when you log out. The File menu's logout command closes the session and logs you out so that you no longer have access to menu commands, but it does not close the Network Controller.

Exiting the Application

To close the Network Controller, select Exit from the File menu. The Exit command closes the session, logs you out, and closes the application. If you made any changes during the session, the Network Controller prompts you to save your session.

The Network Controller Window

The Network Controller window is the interface from which all windows are displayed and handled. When you run the Network Controller for the first time, the Network Controller window contains nothing but the title and menu bars. To display the networks to which the Network Controller is connected, you must first tell it to scan the networks to "discover" them.

Discovering Networks

When you perform a discovery, the Network Controller scans the communication ports or the networks and tells you the configuration of all the NX100 networks and units that are connected to your PC. If you later change the configuration of a network, the Network Controller can re-discover the new configuration. Networks are discovered the first time through the communication ports; thereafter, they can be re-discovered either through the ports or through an already discovered network.

All communication ports on your system are available for use by the Network Controller, but, since you do not want the Network Controller to use ports that are in use elsewhere, you must tell it which ports it can use by activating them. You can activate ports at any time either through the Discovery dialog or with the Port | Activation command. Refer to *NX100 SONET Fiber-Optic Terminal Network Controller Network Provisioning* for more information about port activation. Once ports are activated, they can be scanned for all connections. An RS-232 port has only one possible connection; an RS-485 port has many, one for each shelf with each shelf containing 10 slots.

If you change the configuration of your networks or the units in them, you can re-discover the new configuration either through the communication ports or through the selected network. Since an RS-485 communication port provides connections to up to 16 shelves, with each shelf containing 10 slots, it is necessary only to scan the shelves that contain units. The Network Controller permits you to restrict discovery to those shelves that are being used. When discovery is complete, the Network Controller integrates the new configuration into the current session without affecting the configuration of the unchanged units or networks.

Discovering Networks with the Network Controller

Use this procedure to discover or re-discover a network or networks.

Note: Do not use this procedure if you are using the Craft Controller; use instead "Discovering a Network with the Craft Controller" on page 10.

1. Select Discovery from the Session menu. The Discovery dialog box appears.

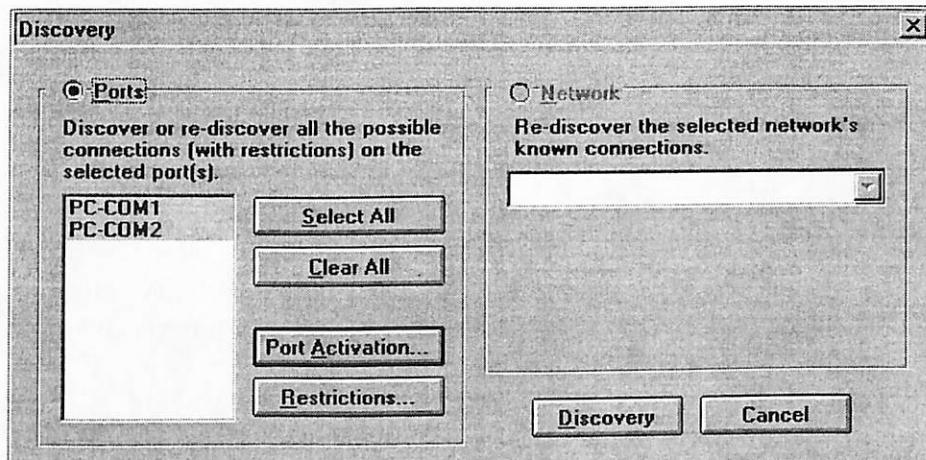


Figure 2-2 Discovery dialog box

2. Determine whether or not the communication port or ports that you wish to use for discovery have been activated.

If the ports	Then go to
have not been activated	step 3
have been activated	step 6

3. Click the Port Activation button. The Port Activation dialog box appears.

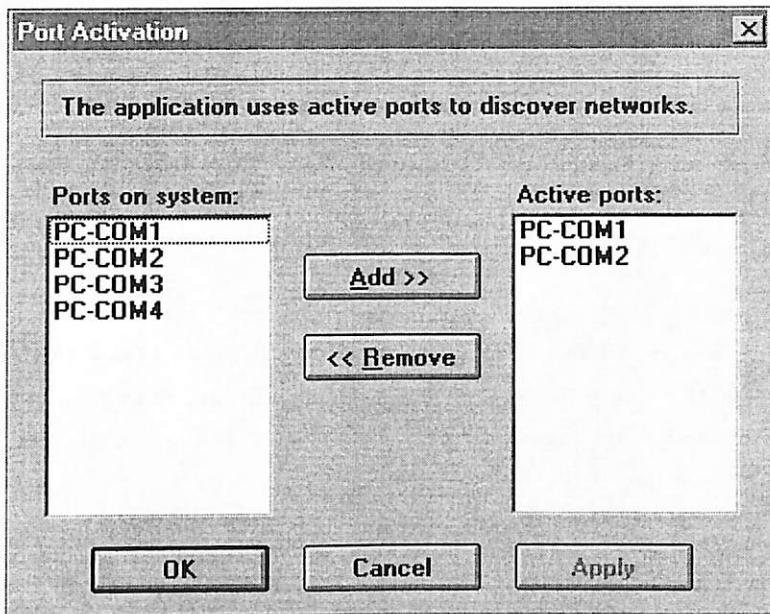


Figure 2-3 Port Activation dialog box

4. In the Ports on System section of the Port Activation dialog box, select one or more ports according to your hardware configuration and click the Add>> button to add them to the Active ports section.

Note: The Ports in system section displays all ports even though they may not all be available for use by the Network Controller. If you add an unavailable port to the Active ports section of the dialog box, the Network Controller returns an error message when you click Apply or OK.

5. Click OK to save your selection and return to the Discovery dialog box. The selected ports are now active.
6. Determine whether you want to discover connections on the network or on the communication ports.

Note: If this is the first time discovery is being performed, it must be done on the communication ports.

If you want to discover connections	Then go to
on the network	step 7
on the ports	step 8

7. In the Discovery dialog, select Network, then choose the network you want to discover from the drop-down list. Go to step 14.

8. In the Discovery dialog, select Ports, then select the port or ports you want to discover from the list of active ports.

If you are	Then go to
using an RS-485 port	step 9
not using an RS-485 port	step 14

9. Determine whether you need to edit the restrictions for any of the active RS-485 ports:

If	Then go to
this is the first time you have performed a discovery	step 10
restrictions have changed since the last discovery	step 10
the restrictions have not changed since the last discovery	step 14

10. Click the Restrictions button. The Discovery Restrictions dialog box appears.

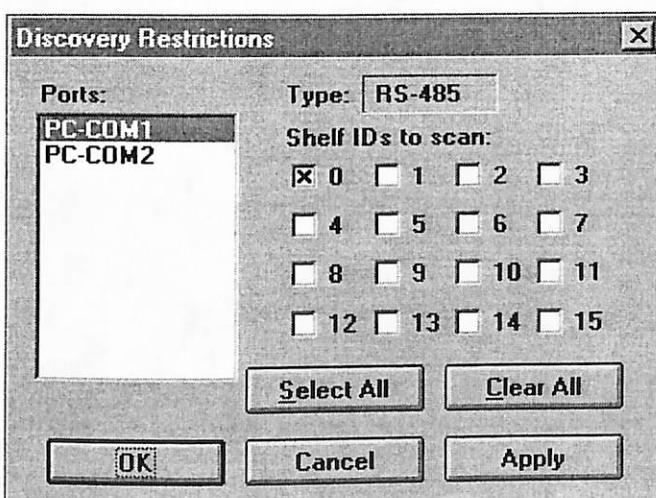


Figure 2-4 Discovery Restrictions dialog box

11. In the Ports section, select the port you want to edit, then, under Shelf IDs to scan, click the shelf identification numbers that are used in the networks on the selected port.

Note: The default configuration tells the Network Controller to discover all shelves in the network. Since scanning every slot in every shelf when they are not in use takes time, however, it is recommended that you scan only the shelves used in the networks on the selected port.

12. Repeat step 11 for each RS-485 port.

13. Click OK to save your restrictions and return to the Discovery dialog box.
14. Click the Discovery button. The Discovery Progress dialog box appears, showing the progress of the discovery. To cancel the discovery and return to the session without applying any changes, click the Abort button.

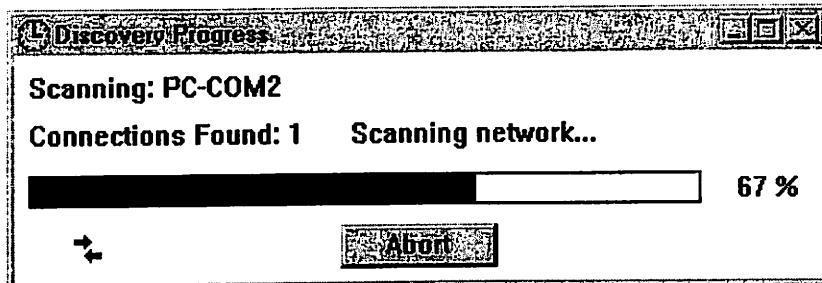


Figure 2-5 Discovery Progress dialog box

If you have previously discovered a network, the Discovery Results dialog box appears.

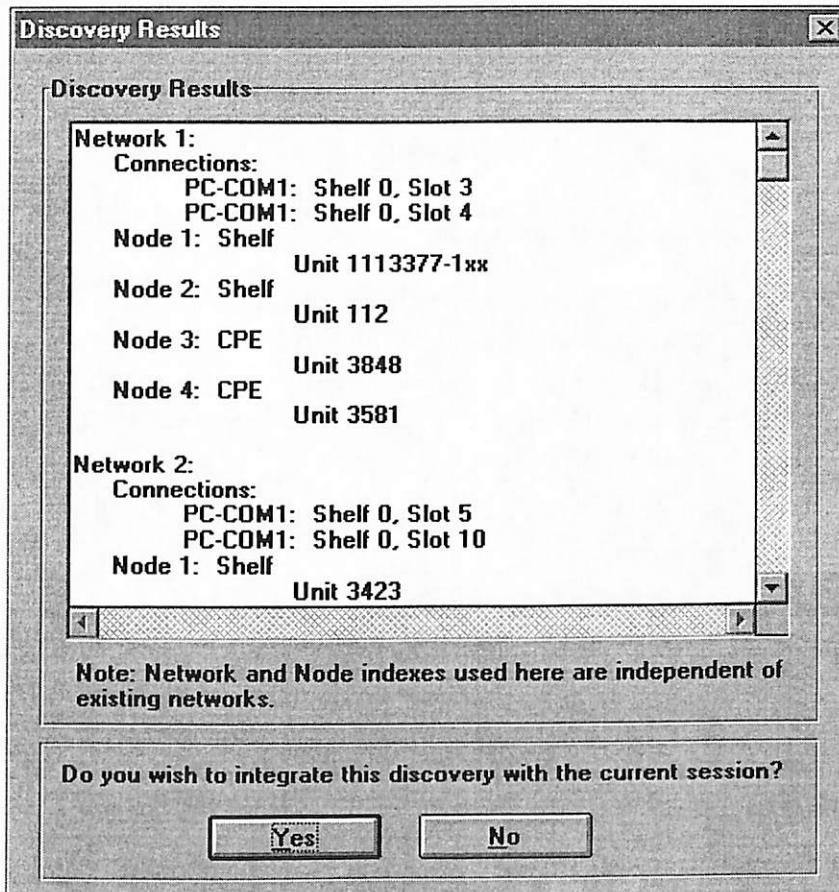


Figure 2-6 Discovery Results dialog box

15. Check the information in the Discovery Results section. If you are satisfied with the result, click the Yes button; otherwise, click No to cancel the discovery.

Note: The names (indexes) of the discovered networks and nodes do not necessarily correspond to the names of the networks and nodes in the current session. The names shown here do not affect the current session when the discovered networks are integrated into it.

When network discovery is complete, a network window appears, such as the one below, for each newly discovered network.

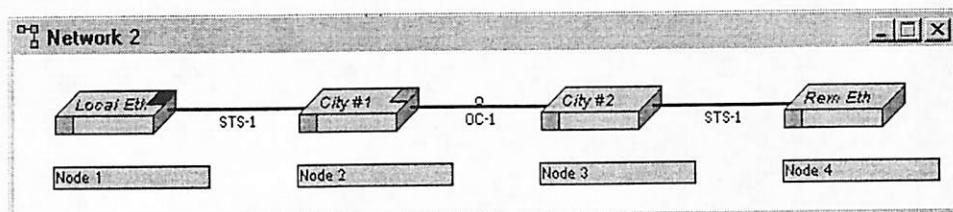


Figure 2-7 A network window

Discovering a Network with the Craft Controller

Use this procedure to discover or re-discover a network.

Note: Do not use this procedure if you are using the Network Controller; use instead “Discovering Networks with the Network Controller” on page 5.

1. Select Discovery from the Session menu. The Discovery dialog box appears.

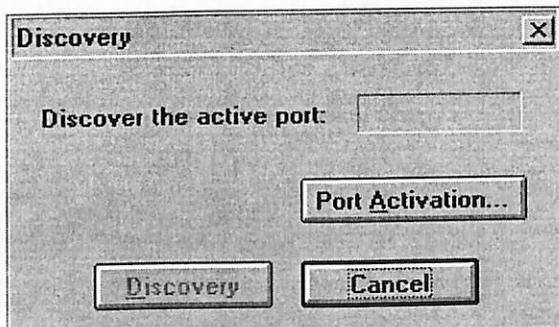


Figure 2-8 Discovery dialog box in the Craft Controller

2. If no port is active, click the Port Activation button.

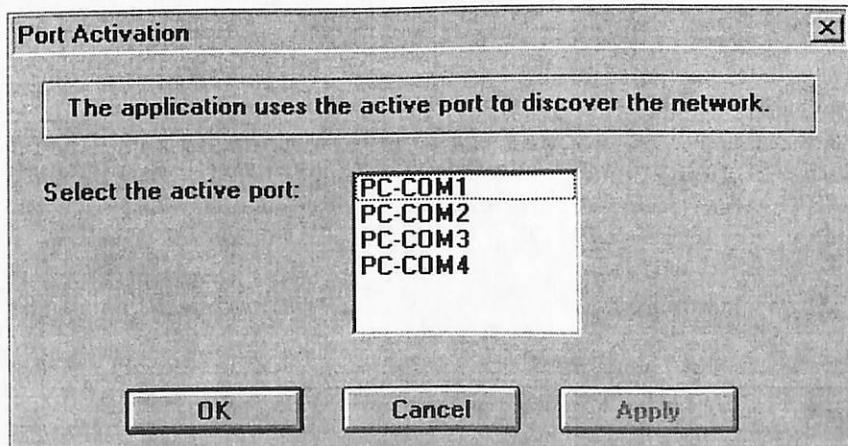


Figure 2-9 Port Activation dialog box

3. Select the port to activate and click OK.

Note: The Port Activation dialog displays all ports even though they may not all be available for use by the Network Controller. If you add an unavailable port to the Active ports section of the dialog box, the Network Controller returns an error message when you click Apply or OK.

4. Continue from step 14 in the previous procedure, "Discovering Networks with the Network Controller".

Network Representation in the Network Window

The representation of each network depends on the configuration of its units and on the physical links between them. Each unit is represented by an icon.

Units are grouped by nodes. A node contains either one unprotected unit or two protected units. In a protected node, the top unit is the primary unit and the bottom is the secondary unit. Units are interconnected by OC-1 or STS-1 links.

Click on a unit to select it. A red rectangle appears on the selected icon. Commands that depend on the unit's selection are accessible only after the Network Controller has obtained a response from the unit. If the unit does not respond, a red X appears on the unit, as shown below, and the Network Controller looks for an alternative network management connection.

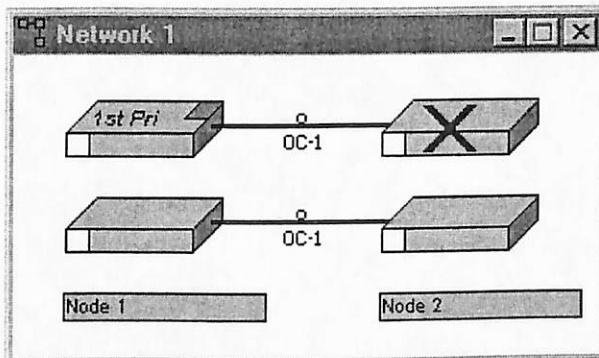


Figure 2-10 X indicating that unit is not communicating with the Network Controller

A network management connection identifies the unit or units through which the PC communicates with the other units in the network. A network management connection is indicated by a green square in the upper right-hand corner of a unit. A black square indicates a connection that is available to be used, but is not in use at the moment. If for some reason connection with the communication unit is lost, the Network

Controller automatically attempts to access any other available unit (that is, one having a black square) to use as the network management connection. The black square on the unit that is now the active network management connection changes to green. Multiple network management connections are possible when different ports are connected at different locations in the network. Furthermore, an RS-485 port connected to a protected enclosure automatically produces two connections; one on the primary and one on the secondary.

The Status Indicator

A coloured square on the left-hand side of each unit icon provides you with information about the status of each NX100 for which status polling is enabled. For information about enabling status polling, refer to *NX100 SONET Fiber-Optic Terminal Network Controller Network Provisioning*.

Note: The status indicator is grey if status polling is not enabled.

On black and white monitors, it may be difficult to distinguish the different colours of the status indicators, which are represented by varying shades of grey.

The following table describes the meaning of each colour.

Colour	Meaning
White	Status polling is enabled, but the Network Controller has not yet determined the status of the unit.
Grey	Status polling has been disabled.
Green	The status of the unit is OK.
Yellow	The Network Controller has detected a minor alarm.
Red	The Network Controller has detected a major or critical alarm.
Purple	The unit is not responding to the Network Controller.
End	

Table 2-1 Colour key for status indicators

Selecting an NX100

Before you can retrieve information from or send a command to an NX100, you must first select it by clicking its associated icon.

Note: You must use the mouse to select the icon; there is no keyboard command to accomplish this function.

A selected icon is identified by the red rectangle that appears on the icon. The selected NX100 is known equally as the current NX100 or the current unit. The network associated with the selected NX100 is known as the current network.

Sending Commands to an NX100

Once you have selected an NX100, you can apply commands to it.

Commands are selected from the menu bar of the Network Controller, as shown below. Frequently used commands are also available by clicking the right-hand button on the mouse in any open window. Commands that do not apply to the current network or unit are disabled.

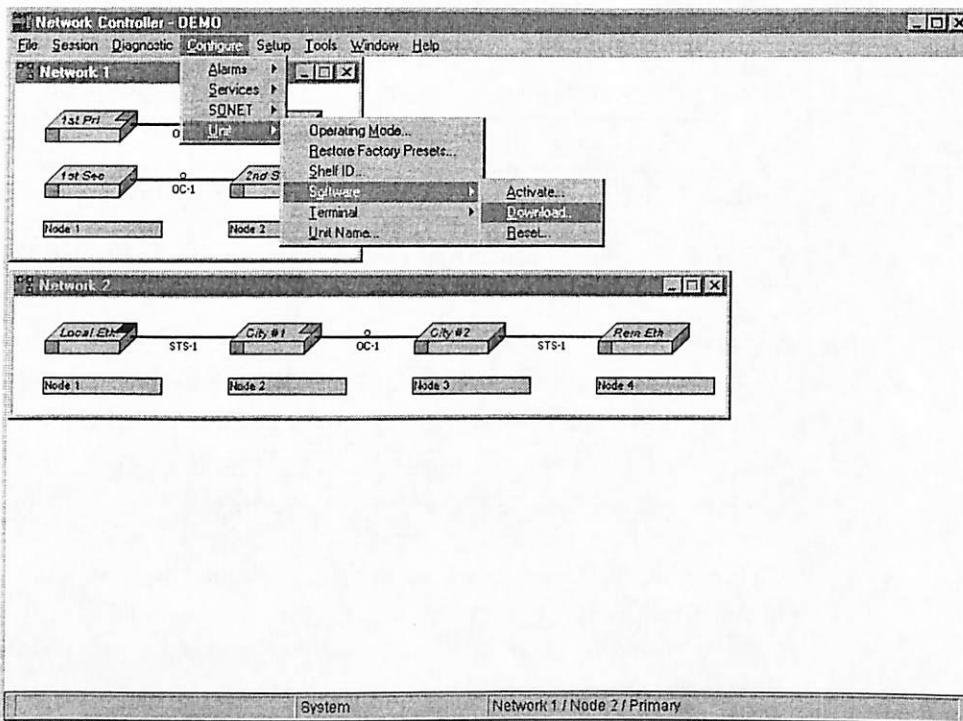


Figure 2-11 Network Controller menus

When you select a command, a dialog box appears. Dialog boxes require some kind of response from you. Dialog boxes usually require that you enter information in certain fields, select from various options, and click one or more buttons to send the command to the NX100. While a command is being transmitted, the cursor changes to an hourglass shape. Some commands affect only the session; others affect only a unit.

There are eight menus associated with the Network Controller:

- File
- Session
- Diagnostic
- Configure
- Setup

- Tools
- Window
- Help

As the network administrator, you are concerned mainly with the Setup and Tools menus.

3 Network Administration

The Network Administrator is responsible for adding, deleting, and modifying users and user groups, and for installing and upgrading software.

The Setup Menu

There are seven commands in the Setup menu:

- Change Password
- User
- User Group
- Operational Parameters
- Upgrade Number of Networks
- Event Logging
- Options

This document provides information about the first five commands. For information about Event Logging and Options, refer to *NX100 SONET Fiber-Optic Terminal Network Controller Network Provisioning*.

Changing Passwords

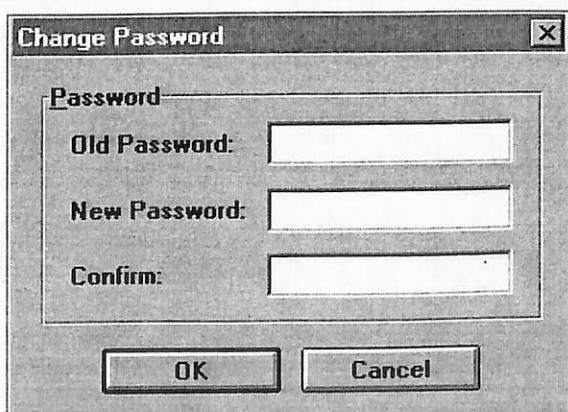


Figure 3-1 Change Password dialog box

Use the Change Password command to change the password of the logged-in user.

To change a password, type the old password in the Old Password field and the new password (minimum three characters, maximum 15) in the New Password field. Confirm the new password by typing it in the Confirm field.

Changing User Configurations

There are three sub-commands that are used to change user configurations:

- Add
- Delete
- Modify

Adding a New User

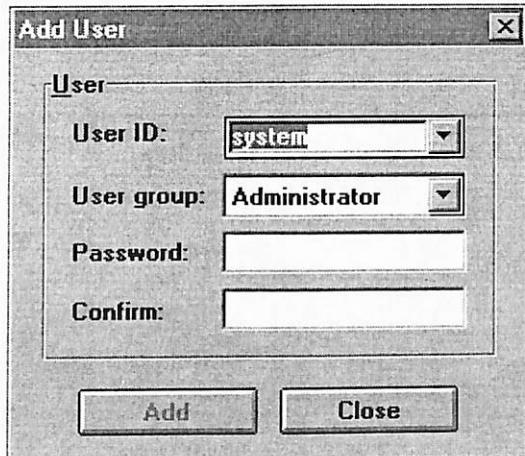


Figure 3-2 Add User dialog box

Use the User | Add command to add a new user to the network or to add an existing user to a new user group.

To add a user, type a new user ID in the User ID field and select a user-group name from the drop-down list in the User Group field (see “Adding a New User Group” on page 20 for information about user groups). Type the new user’s password in the Password field, then confirm the password by re-typing it in the Confirm field. Click the Add button.

Modifying a User

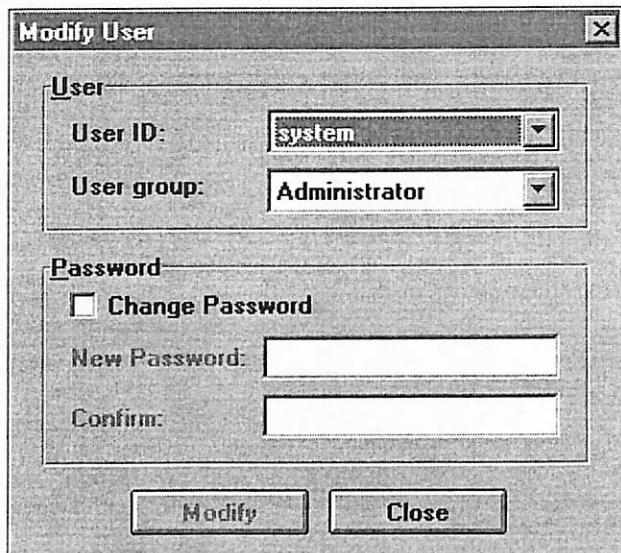


Figure 3-3 Modify User dialog box

Use the User | Modify command to modify a user's group privileges and to change a user's password.

To change a user's group privileges, select the user from the drop-down list in the User ID field, then select a new user group from the drop-down list in the User Group field. Click the Modify button. For more information on user groups see "Adding a New User Group" on page 20.

To change a user's password, select the user from the drop-down list in the User ID field, and click in the Change Password check box. Type a new password in the New Password field and confirm it by re-typing it in the Confirm field. Click the Modify button.

Deleting a User

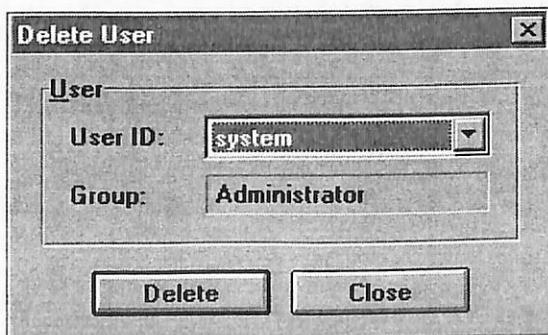


Figure 3-4 Delete User dialog box

Use the User | Delete command to delete a user ID from the network.

To delete a user, select the user ID from the drop-down list in the User ID field and click the Delete button.

Changing User-Group Configurations

There are three sub-commands that are used to change user-group configurations:

- Add
- Delete
- Modify

Adding a New User Group

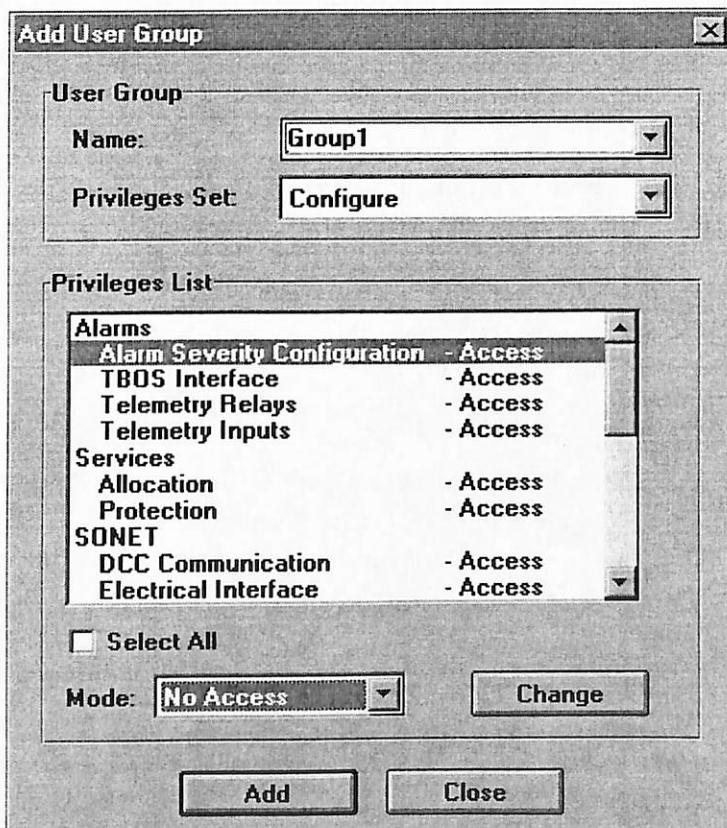


Figure 3-5 Add User Group dialog box

Use the Add User Group command to create a new user group and assign privileges to it. There are three default user groups that are pre-defined in the Network Controller and that cannot be modified. The default user groups and their associated privileges are:

- **Administrator**
Administrators have all access rights. They are permitted to configure and modify networks as well as add new users and change passwords.
- **Operator**
Operators have all access rights except user administration. They are permitted to configure and modify networks, but they are not permitted to add new users or change passwords.
- **Technician**
Technicians have limited access. They are not permitted to configure DS1s or Ethernet or modify networks, but they can place a DS1 in loopback and turn the optical signal on or off.

To find out the specific access details of the above user groups, select Administrator, Operator, or Technician from the Name section of the Add User Group dialog box and read the information in the Privileges List.

To add a new user group:

1. Type a name in the Name field (maximum 14 characters).
2. Select an item from the Privileges Set drop-down list.
3. Scan the options listed in the Privileges List and select any option to which the new user group is or is not permitted to access. To select all the options, click the Select All check box.
4. Click the Mode drop-down list and select Access or No Access, then click the Change button.
5. When you have made all the required changes, click the Add button.

Modifying a User Group

Use the Modify User Group command to modify the privileges assigned to a user group. Of the three default groups, only Operator and Technician can be modified.

The Modify User Group dialog box is the same as the Add User Group dialog box except that you cannot add user-group names. After you have made the required changes, click the Modify button.

Deleting a User Group

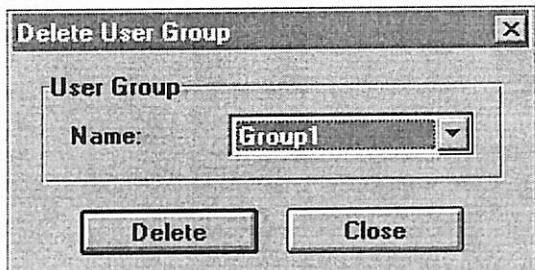


Figure 3-6 Delete User Group dialog box

Use the Delete User Group command to delete a user-defined user group. The three default groups—Administrator, Operator, Technician—cannot be deleted.

To delete a user group, select the user-group name from the drop-down list and click the Delete button.

Displaying Operational Parameters

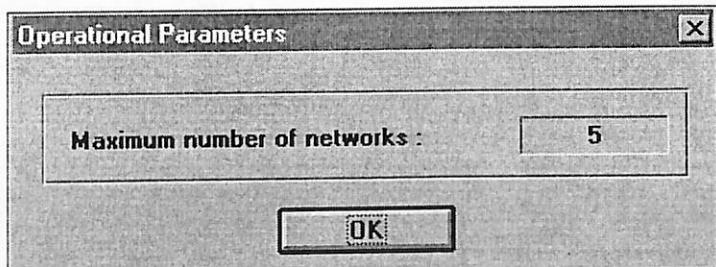


Figure 3-7 Operational Parameters dialog box

Use the Operational Parameters command to display the number of networks that your software license permits you to manage.

Upgrading the Number of Networks

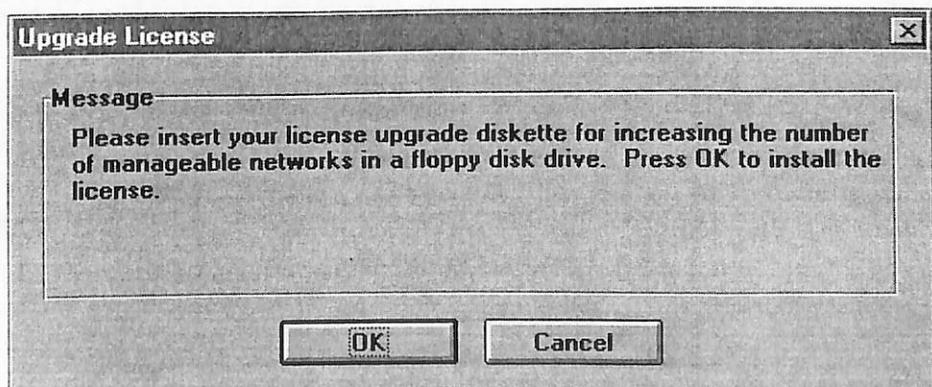


Figure 3-8 Upgrade Number of Networks dialog box

Use the Upgrade Number of Networks command to increase the number of networks that your software license permits you to manage. Upgrade diskettes can be purchased from ABL. By default, the Network Controller can control five networks.

Note 1: The Upgrade Number of Networks command is not available with the Craft Controller.

Note 2: The Craft Controller can control only one network.

The Tools Menu

There are six commands in the Tools menu:

- Global Status Indicator
- Unit View
- Software
- View Log File
- Backup Configuration
- Restore Configuration

This document provides information about the Software, Backup Configuration, and Restore Configuration commands. For information about the Global Status Indicator, Unit View, and View Log File, refer to *NX100 SONET Fiber-Optic Terminal Network Controller Network Provisioning*.

Installing the Control Program and Downloading Software

There are two sub-commands that are used to install software:

- Install
- Download

Installing the Control Program



Figure 3-9 Install Software dialog box

Use the Software | Install command to install a new version of the control program to your hard drive. The control program is the software that resides in and runs the NX100.

To install a new version of the control program, insert the upgrade disk into the disk drive and click the OK button.

Downloading Software

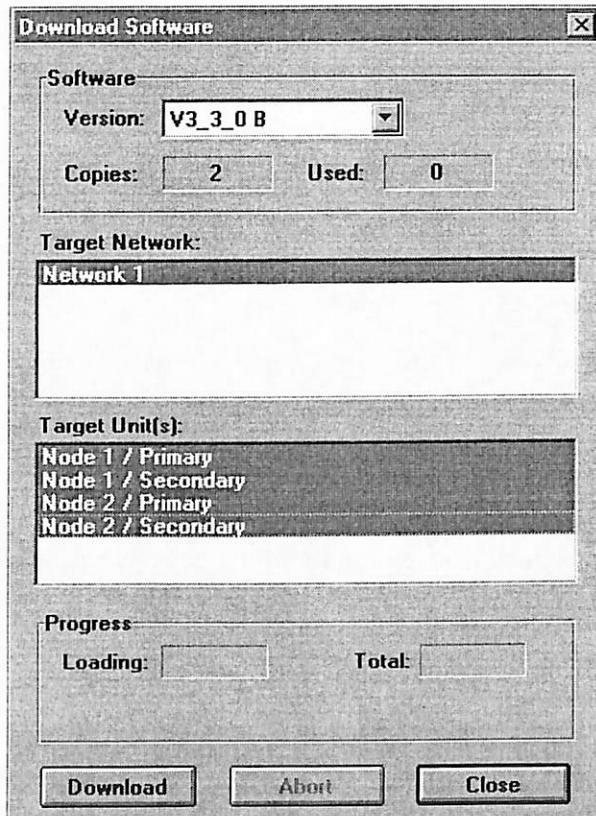


Figure 3-10 Download Software dialog box

To use the Software | Download command, the required control program must be installed in the Network Controller download directory. See “Installing the Control Program,” above, for information about installing the control program.

To download software, select the appropriate network element(s) from the Target Network list box. Click Add then Download. The control program downloads to the unit’s inactive memory.

The paragraphs below describe each section of the Download Software dialog box.

Version The Version field displays the version of the NX100 control program that is to be downloaded. A different version, if available, can be

selected from the drop-down list. A suffix of E or B indicates that the version is either Enhanced or Basic.

Copies The Copies field indicates the number of copies of the selected control program version that you are licensed to download.

Used The Used field indicates the number of copies of the selected control program version that have been downloaded.

Target Network The Target Network list box displays all the networks that have been discovered. When you select a network from this list, the units associated with that network appear in the Target Unit(s) section.

Target Unit(s) The Target Unit(s) list box displays the available NX100s in the selected networks.

Loading The Loading field indicates the download progress by displaying how many kilobytes of the control program have been downloaded.

Total The Total field indicates the total size of the control program in kilobytes.

Download Button The download button starts the download process. When you click on this button, the control program is downloaded to the selected units in the Target Unit(s) list.

Abort The abort button aborts the download process.

Close The Close button closes the Download Firmware dialog box.

Backing Up the Current Configuration

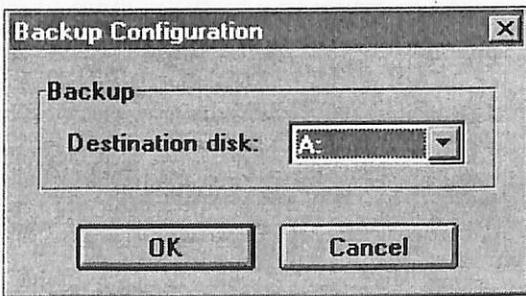


Figure 3-11 Backup Configuration dialog box

Use the Backup Configuration command to save the application's basic configuration to a floppy disk. This command backs up the following configurations:

- Users
- User groups
- .INI file (communication ports, password, options, etc.)

To back up the basic configuration, select the destination disk name from the drop-down list and click the OK button. Make a note on the diskette of the release version of the back-up.

To back up the session files, select File | Save as, and save as you would any other Windows session. Session files have a .SES file extension. You can also save files that contain window positions and sizes. These files have a .ODW file extension.

Restoring Configuration



Figure 3-12 Restore Configuration dialog box

Use the Restore Configuration command to restore a previously backed up configuration.

CAUTION—service degradation

Ensure that the release version of the back-up configuration is the same as release version of the current control program.

To restore the configuration, select the source path name from the Source disk drop-down list. Select either All files or Corrupted files and click the OK button.

Glossary

administrator (access level)

A user of the Network Controller who has access to all Network Controller commands. Administrators can, for example, monitor and configure NX100s as well as add new users and change passwords. Compare *Operator* and *Technician*.

control program

The software that resides in the chips on a circuit board and that runs the equipment.

DS1

A digital signal travelling at a speed of 1.544 Mb/s and having a coding type of either AMI or B8ZS.

E1 ~

firmware

See *Control program*.

loopback test

A functional test in which a signal is looped back to its originating equipment. Also known as a loopback.

network element (NE)

SONET equipment that communicates with existing telecommunications equipment.

operator (access level)

A user of the Network Controller who has access to all Network Controller commands except user administration. Operators can, for example, monitor and configure NX100s, but they cannot add new users or change passwords. Compare *Administrator* and *Technician*.

primary unit

In a protected system, the unit that is active when there are no failure conditions or when, in revertive mode, a manual switch has not been requested.

protected

In telecommunications systems, the condition in which two or more primary and secondary devices (units) are configured to provide the same service, with the secondary unit being active only when a failure condition or a manual switch request on the primary unit occurs.

remote unit

A unit, usually at another location, that is part of a network and with which you may communicate through a PC or VT100 terminal connected to a local unit.

serial expansion board

A communications adapter that adds serial ports to a PC.

secondary unit

In a protected system, the unit that becomes active when there is a failure or manual switch request that affects the working primary unit.

SONET

Synchronous optical network

stargate board

See *Serial expansion board*.

STS-1

Synchronous transport signal level 1

synchronous optical network (SONET)

A telecommunications network transmitting optical signals that are synchronized to a reference clock.

synchronous transport signal level 1 (STS-1)

An electrical signal having a rate of 51.84 Mb/s, it is the electrical analog of the OC-1 signal. It is sometimes called the EC-1

technician (access level)

A user of the Network Controller who has limited access to the Network Controller. Technicians cannot configure DS1s or Ethernet, for example, but they can put a DS1 in loopback and turn off the optical signal.

Compare *Operator* and *Administrator*.

virtual tributary (VT)

A structure that carries sub-STS-1 payloads.

VT

Virtual tributary

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ABL Canada Inc.
NX100 SONET Fiber-Optic Terminal
Network Controller Installation and Administration

Appendix C

Sample Work

DVT45

Chapter 5

Configuring the DVT45 Network

Enclosures are the physical units containing codecs, an MPU, and power supplies that are the heart of the DVT45 network. Before an enclosure can be monitored by the RCS—and before you can interact with it—the enclosure must be defined in the software and physically connected to the PC on which it is running. Once defined and configured, you can use the RCS to view enclosure information and modify component behavior as required.

This section describes how to configure the RCS communication links to the DVT45 enclosures. It then instructs you how to configure the enclosures and their codecs.

Any additional hardware required by your PC—such as an asynchronous communication card—must be installed before you configure the RCS software. Otherwise when you attempt to initialize the ports, errors will occur.

Note - You require configuration privileges to perform the functions described in this section. By default these privileges are assigned to the Administrator and Technician user groups.

Configuring the Communication Links

Overview

The RCS can be attached to a DVT45 enclosure (or DVT45 enclosure chain) in three different ways:

1. The RCS can be attached directly to a local enclosure without using a modem. In this case, the RCS will use the specified port to send commands directly to the enclosure without dialing.
2. The RCS can be attached to a remote enclosure via a dedicated modem. In this case, the RCS will use the specified modem and dial the selected phone number to reach the remote enclosure location.
3. The RCS can be attached to a remote enclosure via a modem (or modems) shared with other remote enclosures. In this case, the RCS will get the first available modem from a modem pool list and dial the selected phone number to reach the remote enclosure location.

The RCS separates the enclosure connection into two parts: the serial I/O port connection and the link connection. In the RCS, each DVT45 enclosure is attached to a link and each link is attached to a serial I/O port.

To define a connection, you must first define the serial I/O ports. Each port gets its own baud rate and connection type (direct, modem-dedicated, or modem-shared). You must use the modem-shared type if you want to put a modem on the modem pool list. When a serial I/O port is attached to a modem, the RCS provides a complete set of user configurable commands to initialize, dial, and hang up the modem. Hayes-compatible commands are provided as defaults.

Once the serial I/O ports are configured, you can define the links. Each link is defined with a location ID (e.g., Montreal), a port ID (e.g., PC-COM1), and a phone number. The port ID “MODEM-POOL” must be used when this link is connected through the modem pool list.

Once the links are configured, you can define the DVT45 enclosures (see Adding DVT45 Enclosures to the Network). When enclosure configuration is complete, the enclosure icon will appear in the Network Summary window. The link name and current status appears in the top bar of each enclosure icon. By double-clicking on the top bar, you will have direct control over the link connection and configuration for each enclosure.

The diagrams below show examples of the three types of connections with the required configurations.

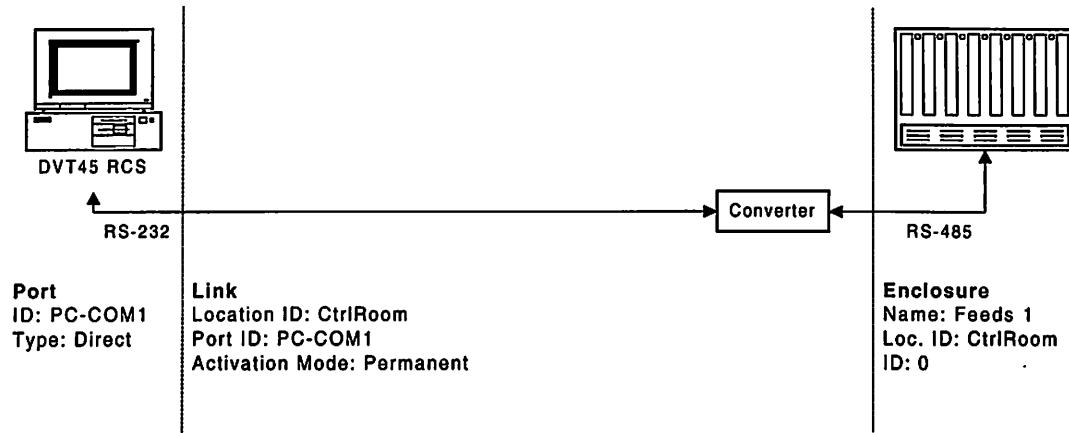


Figure 5-1 Direct Connection

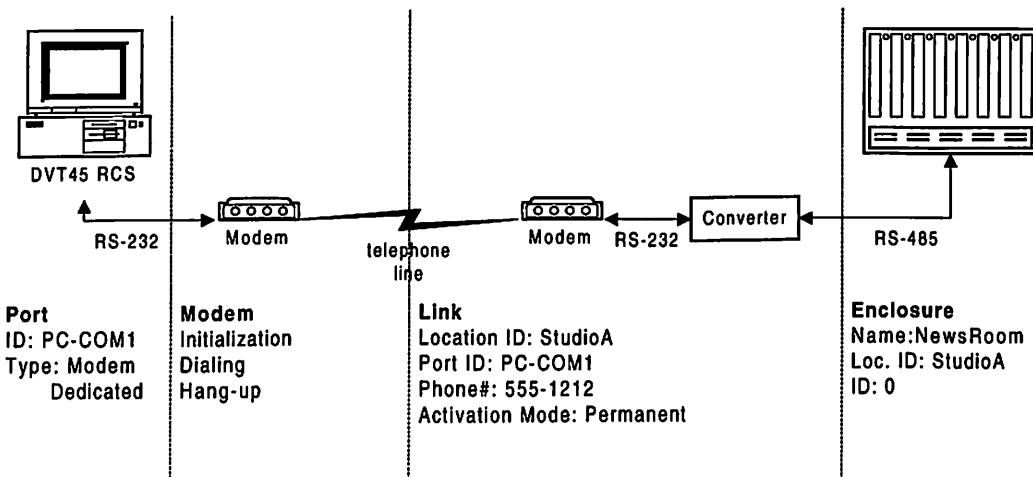


Figure 5-2 Dedicated Modem Connection

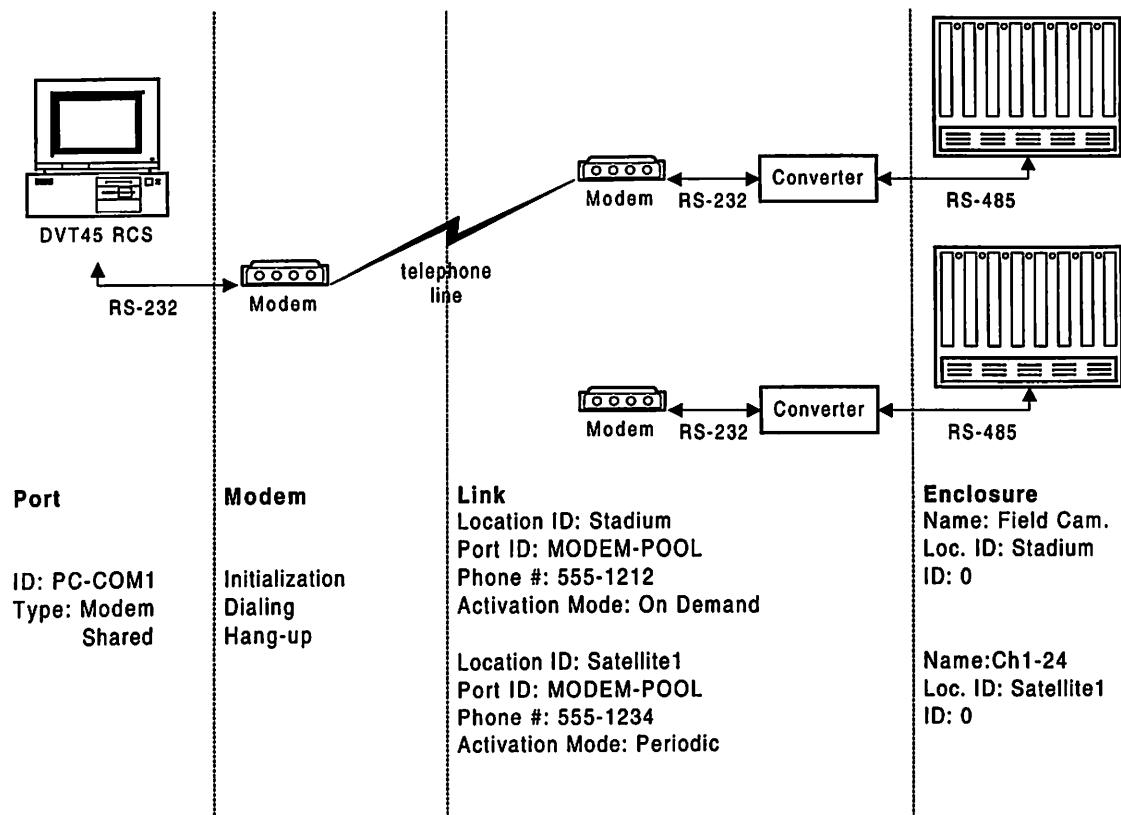


Figure 5-3 Shared Modem Connection

Determining the Maximum Port Speed

The following instructions are only necessary if you are establishing a direct connection to the enclosure—that is, a connection without a modem. If you are using a modem to communicate with the enclosure, then proceed to *Configuring the Communication Ports* on page 5-6.

The following instructions apply to PC communication ports only. If you are using a DigiBoard, you cannot run the test described below. For instructions on installing and configuring the DigiBoard, see *Installing a DigiBoard (optional) on page 1-4*.

To test a PC port's maximum speed:

1. Run the Microsoft MSD program by typing the following at the DOS command prompt: MSD
2. In the MSD dialog, click the COM Ports button.
3. The COM Ports dialog appears, displaying information about each serial port on your PC.
4. Note the type of UART chip associated with the serial ports you want to configure.

If the UART chip used is 16550, the maximum port speed that can be configured is 38 400 bps. Otherwise, the maximum speed is 9 600 bps.

Configuring the Communication Ports

Once you have determined the maximum speed supported by your communication ports, you must configure the RCS link for each port.

To configure the I/O port:

1. From the **Admin** menu, choose **Configure Serial I/O Ports** to call up the dialog.

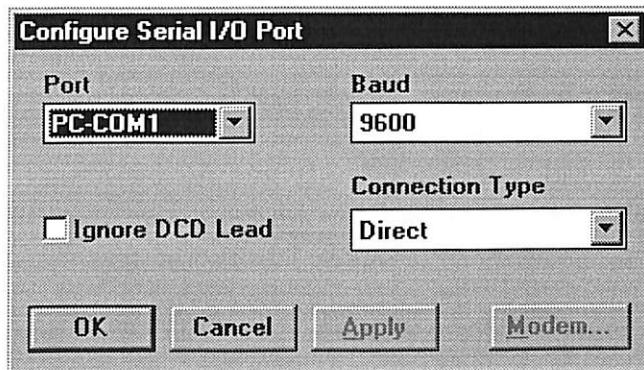


Figure 5-4 The Configure Serial I/O Ports dialog

Provide the following information when configuring the communication link:

Item	Description
Port ID	The name of the port being configured for this link. By default, PC ports are named PC-COM1, PC-COM2, etc. Ports available on the serial communications card are named DG1-COM1, DG1-COM2 etc.
Baud Rate	The data transmission speed for this link. The baud rate you select must match that of the MPU in the enclosure. If enclosures are chained together, make sure that all MPU's in the chain have the same baud rate.
Ignore lead	The DCD lead is used by the RCS to detect the port connection. If the DCD lead is not provided to the RCS port, you may choose to ignore it. This option is not recommended, but it can be used if problem occurs with the port connection.
Connector Type	The type of connection this port is using:
Direct	Direct cable connection to a DVT45 enclosure

Modem	Connected to a modem. Exclusive.
Modem-Shared	Connected to a modem. Time shared between multiple links.
Reserved	Reserved for use by another Windows application.
OK	Save the configured settings for this port and continue configure other ports.
Apply	Configures settings for this port without saving it.
Cancel	Exit the dialog.
Modem	This button becomes available if a Modem connection type is selected. It allows you to configure the modem attached to this port.

Configure Serial I/O Ports descriptions

2. Select the port you want to configure from the **Link ID** drop-down list.
3. Select the port's **Baud Rate**.
For a connection via modem, the recommended speed is 9 600 bps, regardless of the port's actual speed.
4. Select the type of Connection you are establishing.
If you need to use any of the PC ports for other Windows applications, mark them as **Reserved**.
5. Click **Configure** to record the information and then **End** to exit.

Configuring a Modem Connection

Note - This section assumes you are familiar with modem technology and installation procedures.

If any of your enclosures are connected to the RCS via modem, you must configure both the local and remote modems. The local modem must be included in the RCS setup. The remote modem must be connected to the respective DVT45 and initialized to respond to calls from the RCS. Once both modems are set up, you can attempt to establish a connection.

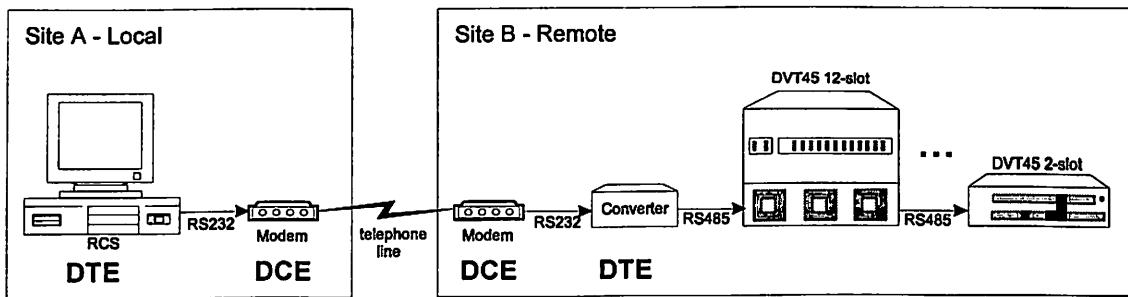


Figure 5-5 Setting up the local and remote modems

To set up the local modem:

Configuring the software to use the local modem—the one connected to the RCS—is the first step in establishing a modem connection to a remote enclosure. For ease of configuration, the RCS contains default definitions for Hayes-compatible modems.

To configure a modem you must first select the port to which it is attached.

1. From the **Admin** menu, select **Configure Serial I/O Ports**.
2. Follow the instructions in the section on *Configuring the Communication Ports* on page 5-6. For the **Connection Type**, you must select **Modem**.
3. The **Modem** button becomes active. Click on it to display the **Configure Modem** dialog:

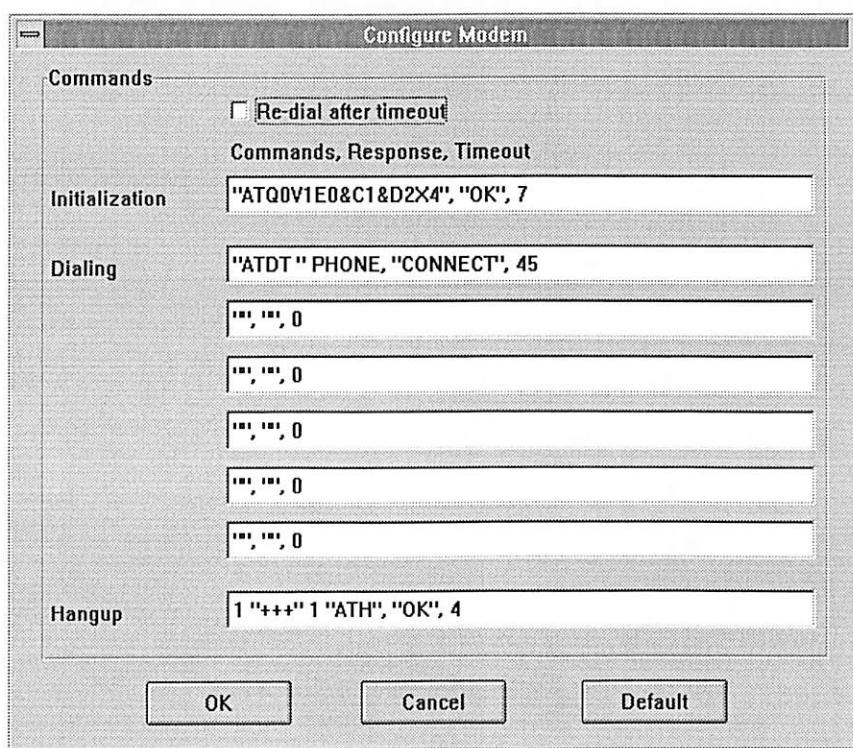


Figure 5-6 The Configure Modem dialog

Provide the following information when configuring the modem:

Item	Description
Redial after timeout	During dialing, redial the phone number after a timeout.
To allow for quick and easy configuration, the RCS contains default definitions for Hayes-compatible modems. These commands are applicable to most modems and can be left as they are, or changed to customize the modem initialization sequence. For details on the command strings, refer to the documentation that came with your modem.	Each command sequence string must be entered in the following order: Commands,Response,Timeout
Commands	The command to be sent to the modem. Character between quotes (‘) are sent directly to the modem. The command field is terminated by an outside quote comma (,). If a comma is located between quotes, a comma character will be sent to the modem. To wait before sending the next character, a number of seconds between 1 and 9 can be included outside the quote. e.g. 1’+++’1’ATDT’,
Response	The response to be received from the modem after the corresponding command transmission. Character between quotes (‘) must be received from the modem. The response field is terminated by an outside quote comma (,).
Timeout	The length of time (in seconds) to wait for a response to the previous command.
Initialization	You can enter the above sequence string in any of the Initialization , Dialing , or Hangup fields. The initialization commands for the modem. The modem must provide a Carrier Detect signal to the RCS to confirm connection. This is done by the &CI command. To ensure proper modem disconnection, the modem must be configured to use the DTR signal to terminate the call. This is done by the &D2 command.
Dialing	Multiple-step dialing commands. Note - PHONE is a variable that is replaced by the Phone Number entered in the Configure Link dialog. The PHONE variable must be entered outside quotes, and can be placed anywhere in the dialing Command steps. e.g. ‘ATDT’PHONE,’CONNECT’,40
Hangup	Hangup instructions for the modem.
OK	Save the configured settings for this port and continue to configure other ports.
Cancel	Exit the dialog without saving the settings.
Default	Reset the configuration to the default Hayes command set.

Configure Modem descriptions

4. Select the Redial after timeout option if you want the modem to keep trying to establish the connection.
5. Configure any other required settings and click OK to save your configuration.

To change an existing modem configuration:

1. From the Admin menu, select **Configure Serial I/O Ports**. Select **Show Modem Connections**. The **Modem Connections** dialog appears.
2. Select the Serial I/O port to which the modem is connected.
3. The **Modem** button becomes active. Click on it to change the modem settings.

To initialize the remote modem:

1. At the remote site, connect a PC to the modem.
2. Start up your remote modem and using a terminal emulator program (such as Microsoft Terminal or any other TTY emulator), initialize the modem by typing the following command:

AT\$0=1 &B1 &M0 &DO &W

Note - The above command is an example of the initialization sequence for a Hayes-compatible modem.

The following table explains each of the above commands:

Command	Description
AT	A required command prefix
SO=1	Sets the modem auto-answer mode, and to answer on the first ring
&B1	Sets the modem's serial port rate to the current communication speed of 9 600 bps
&M0	Disables any internal error control. The RCS uses its own error control techniques.
&DO	Disables DTR signal handling
&W	Writes the current configuration to the modem's nonvolatile RAM—when a power outage is preserved

Sample Hayes-compatible modem commands

Note - The above commands are applicable to most modems. Some modems use DIP switches to set the same configuration information. If you experience difficulty—for example, if the

modem does not respond with OK—consult the documentation that came with the modem for the equivalent commands.

Before proceeding with the DVT45 enclosure and codec configuration, you must establish a connection to the remote site.

Configuring a Link

All enclosures must be associated with a link. The link may in turn be connected to the RCS through a serial I/O port.

To add or configure a link:

1. From the **Admin** menu, choose **Configure Link**.

The Configure Link dialog appears:



Figure 5-7 Configure Link dialog

2. If you want to add a new link, click on the **New** button, otherwise select the link through the **Link ID** drop-down list.

Provide the following information when configuring the communication link:

Item	Description
Location ID	The name of the location for this link. This will be displayed on the top bar of all the enclosures associated with it.
Port ID	Select the name of the port that will be used with this link. Use "Modem Pool" for sharing modems with other links.
Phone Number	If the selected port uses a modem, enter the phone number that the modem must dial to reach this location. To tell the modem to wait before dialing the next number, a comma (,) can be included in the phone number.
New	Click this button to add a new link
Remove	Click this button to remove the selected link
Activation Mode	Select one of the following activation mode for this link. The activation mode can be changed at any time without affecting the current link status (connected or disconnected).
Permanent	To keep a permanent link with the enclosure, this activation mode must be used. In this mode the link will be automatically activated after the RCS startup and reactivated if the communication line goes down (DCD drop). Obviously this mode should be used on direct connection. It may also be used when full time monitoring of the DVT45 enclosure is required on the modem connection. Even if the permanent mode is used, the user can decide to manually disconnect a permanent link.
On Demand	This mode provide entire activation control to the user. In this mode, no link activation is done without the user intervention. However, the link activation is not maintain, if no activity (alarm or special status request) occurs on the link. The RCS will automatically disconnect the link after the specified inactivity timeout. This mode is useful when full time monitoring of the DVT45 enclosure is not required, particularly on the modem connection. To control the link connection refer to the Establishing a Modem Connection section. In this mode the link is not reactivated if the communication line goes down.
Periodic	This mode provide automatic link activation at the specified

	period of time. The link is also disconnected automatically after the specified inactivity timeout.
	In this mode the link is not reactivated if the communication line goes down.
	This mode is useful when some periodic monitoring of the DVT45 enclosure is required, particularly on the modem connection.
	When several periodic links are using the modem pool, the RCS give a rotational priority to each link activation.
Timeout	With the “On Demand” and the “Periodic” activation mode, the link activation is not maintained, if no activity (alarm or special status request) occurs on the link. The RCS will automatically disconnect the link after the specified inactivity timeout.
Period	Time between periodic link activation.
OK	Save the configured settings for this link
Apply	Configures settings for this port without saving it.
Cancel	Exit the dialog.
Port	Click this button to call up the Configure serial I/O Ports dialog.

Configure Link descriptions

To rename a link:

1. From the **Admin** menu, choose **Configure Link**.
The Configure Link dialog appears.
2. Select the link through the **Link ID** drop-down list.
3. Enter a new name and click on **OK**.

To remove a link:

1. From the **Admin** menu, choose **Configure Link**.
The Configure Link dialog appears.
2. Select the link through the **Link ID** drop-down list.
3. Click on the **Remove** button.

Note - You cannot remove a link if it is associated with enclosures. First remove all associated enclosures, then remove the link.

Viewing Link Status

The top bar of the enclosure icon displays the Location ID of the link used and its current status. The status is indicated by the following icons

Icon	Description
	Direct Connection
	Connected via modem
	Not connected
	Communication problems

To view more information about a link's status:

Double-click on the enclosure's top bar, or from the **Status** menu, select the **Show Link Status** option.

The Link Status dialog appears:

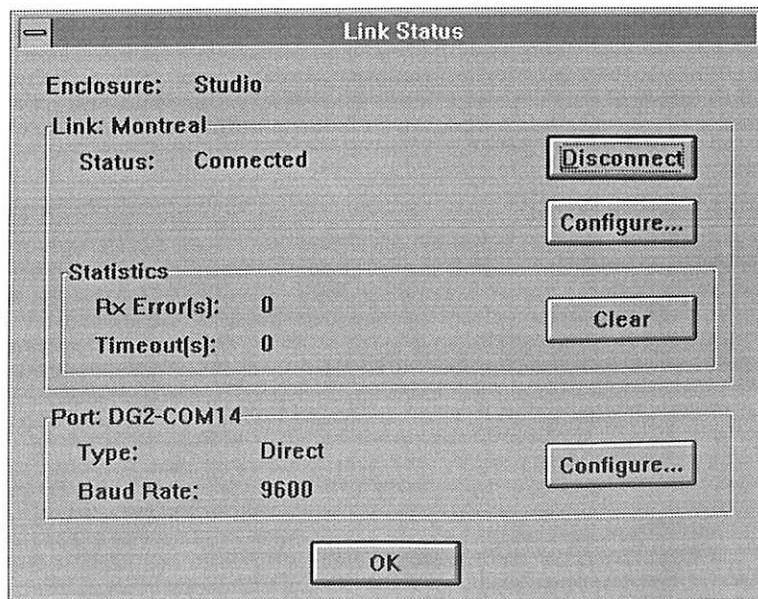


Figure 5-8 The Link Status dialog.

The following table provides a description of the items in this dialog.

Item	Description
Enclosure	Name of the selected enclosure
Link	Location ID of the link associated with this enclosure
Status	Connection status of the link
Statistics	Error counters for the link. The counters are initialized to 0 when the RCS is started and will saturate at a maximum of 65535
Rx Error(s)	Number of bad packet received
Timeout(s)	Number of expected responses that were not received
<u>Clean</u>	Button to reset the statistics counter to 0
Port	ID of the communication port used to reach this enclosure
<u>Baud Rate</u>	Connection rate used by the PC
Connect/Disconnect	Button allowing to change the connectivity status of the link
Configure	Button allowing to modify the connection parameters
<u>Close</u>	Button to exit the dialog box.

Link Status descriptions

Viewing All Links

It is possible to view and control the connection status of all the links at the same time.

Discovering an Enclosure

The DVT45 enclosure discovery function provides an easy way to add an enclosure in the RCS network. This function lets you install the DVT45 enclosure without having to match the enclosure ID with the MPU DIP switches.

When you discover an enclosure, the RCS sends a message to each enclosure ID on the selected link. If replies are received from unused enclosure IDs, the RCS displays the new enclosure ID found and lets you decide whether or not to integrate the new enclosure in the RCS network.

Conversely, the RCS also displays missing enclosures and lets you decide whether or not to remove them from the RCS network.

To discover a new connected enclosure:

1. From the Enclosure menu, select Discover Enclosure.

The Discover Enclosure dialog appears.

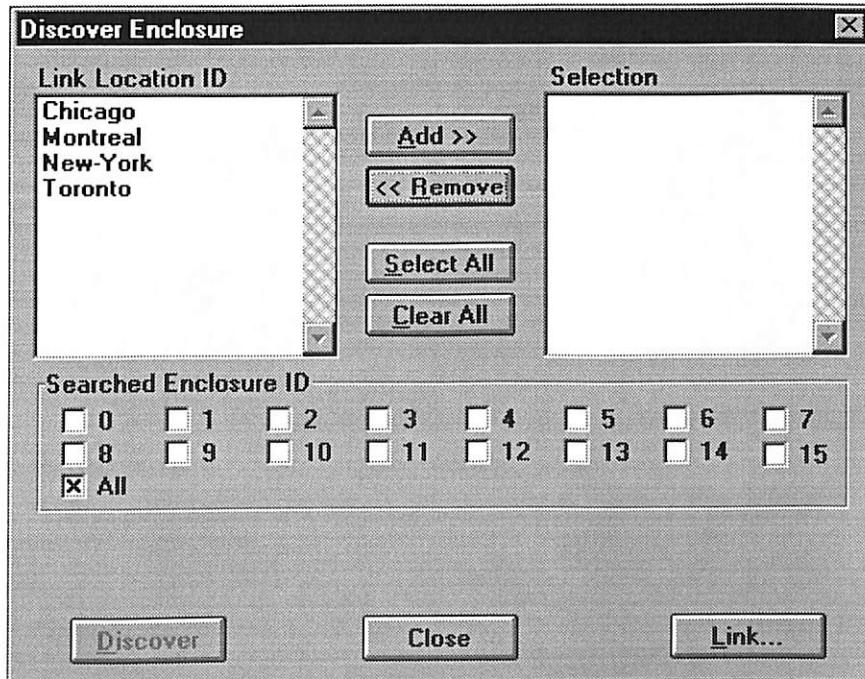


Figure 5-9 Discover Enclosure Dialog

The following table describes the Discover Enclosure dialog:

Item	Description
Link Location ID	The location name of the link to which the enclosures are attached. For a link to appear on the list, it must have been configured at installation time.
Selection	The selected location name of the link on which the new enclosures will be searched.
Add / Remove	Adds or Removes the location name in the Selection area.
Select All / Clear All	Selects or clears all the location names from the list.
Searched Enclosure ID	By default the RCS searches for all enclosure IDs (0 to 15), but you may want to minimize the search time by searching for specific enclosure IDs.
Discover	Activates the enclosure discovery.
Close	Exits the dialog.
Link...	Activates or configures the link before doing the enclosure discovery.

2. From the Link Location ID area, select the location names on which the new enclosures will be searched by highlighting each location name and clicking Add. This places the location ID in the Selection list.

To remove a location name from the Selection list, highlight the name and click Remove.

You can highlight more than one location name at a time by holding down the Ctrl key and clicking on an enclosure. To highlight several names at once, select the first name in the group, hold down the Shift key and click the last name in the group. You can also place a location name in the Selection list by double clicking on it.

3. By default the RCS searches for all enclosure IDs (0 to 15), but you may want to minimize the search time by searching for some enclosure IDs. To do so, click on the specific enclosure ID numbers, the All check box is automatically removed.
4. Click Discover to begin the enclosure discovery.

Before starting the discovery process, the RCS verifies the activation of the selected links location ID. If some of the link are not activated, the RCS displays these links and lets you decide to continue the enclosure discovery on the other links.

During the enclosure discovery a status bar displays the progression of the discovery progress. Discovery takes approximately 10 to 20 seconds. You can cancel the enclosure discovery at any time.

After completion of the enclosure discovery, the RCS displays the new and the missing enclosure IDs and lets you decide to update the RCS network accordingly.

5. The RCS uses a concatenation of the location ID and the enclosure ID as the default name for each new enclosure added. You can select the Configure Enclosure from the Enclosure menu, to change the enclosure name and the monitoring option.

Configuring an Enclosure

When you add a new enclosure to the RCS, it must be configured to allow the RCS to monitor its activity and display it on-screen. Configuring a new enclosure is a simple process that takes a matter of minutes. If the PC-to-enclosure communication is to take place via modem, you must also provide the RCS some modem initialization information as described in the section on *Configuring the Communication Links* on page 5-2.

To configure a new or existing enclosure:

1. From the Enclosure menu, select Configure Enclosure.

The Configure Enclosure dialog appears:

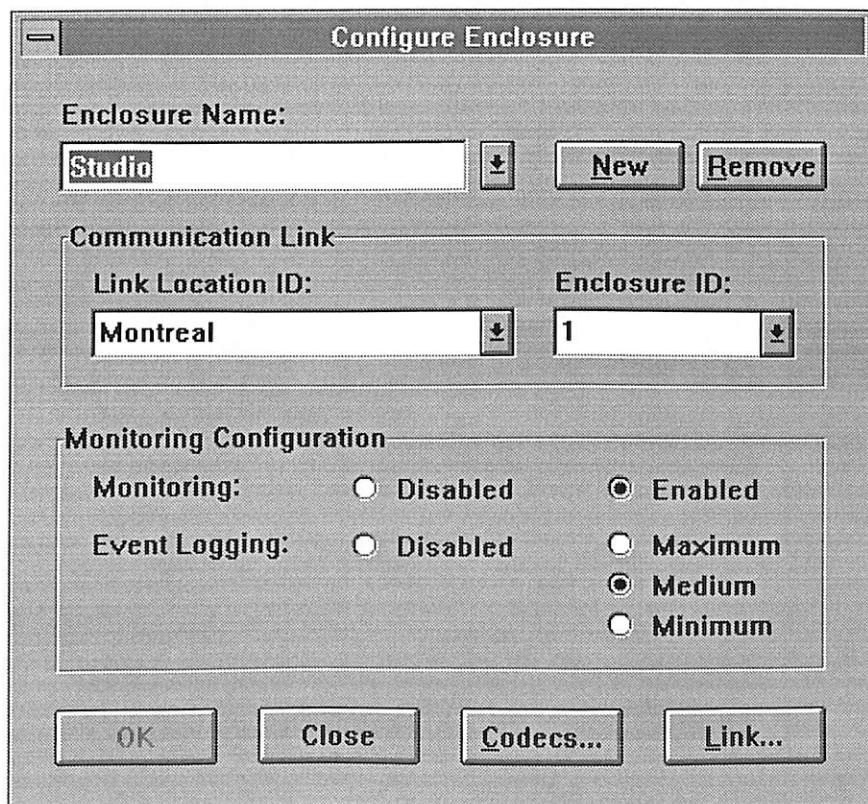


Figure 5-10 The Configure Enclosure dialog

2. Type the name of the enclosure in the Enclosure Name field.

When configuring an existing enclosure, select its name from the drop-down list.

Provide the following information when configuring an enclosure:

Item	Description
Enclosure Name	The name by which the enclosure will be identified on-screen and in the event logs generated by the RCS
Link Location ID	The link location ID to which the enclosure is to be attached
Enclosure ID	Since up to 16 enclosures can be chained together, each enclosure must have a unique identifier, in the range 0 to 15. This number must match the DIP switches address on the MPU card. When an identifier has been used, it is removed from the list
Monitoring	Once monitoring is enabled, the RCS periodically polls the enclosure for its status and updates the display
Event Logging	If the monitoring is enabled, you can also choose to enable event logging. This asks the RCS to maintain an event log in which all alarms are recorded. It is recommended that you enable event logging for all active enclosures. The event logs provide a written record of network activity, and help in diagnosing any alarms.
	To control the amount of detail generated in the event logs and the alarm sensitivity, you must choose one of these levels. Medium is the recommended setting.
Minimum	Report the user level alarms, if they last at least 10 second. Use this setting if you do not intend to monitor on a continuous base.
Medium (Recommended)	(Recommended) Report the user level alarms, if they last at least 5 second. This
Maximum	

Removing a DVT45 Enclosure

When an enclosure is no longer needed, you can easily delete it from the RCS. Deleting an enclosure from the system removes its icon from the display and erases all information about it from the network database files.

To remove an enclosure from the system:

1. Click the enclosure that you want removed.
2. From the **Enclosure** menu, choose **Remove Enclosure**.
3. When asked to confirm your selection, click **Remove**.

Viewing Enclosure Contents

The MPU and codecs in an enclosure contain configuration information that determines how they operate. Some information, like the board type and model, is factory set and permanently stored on the board.

To view MPU and codec information for an enclosure:

1. Click the enclosure for which you want information.
2. From the **Status** menu, select **Show Enclosure Inventory**.

- or -

1. Double-click the enclosure name.

The Show Enclosure Inventory dialog appears. The dialog identifies the enclosure by name, and provides information on the MPU and the codecs it contains.

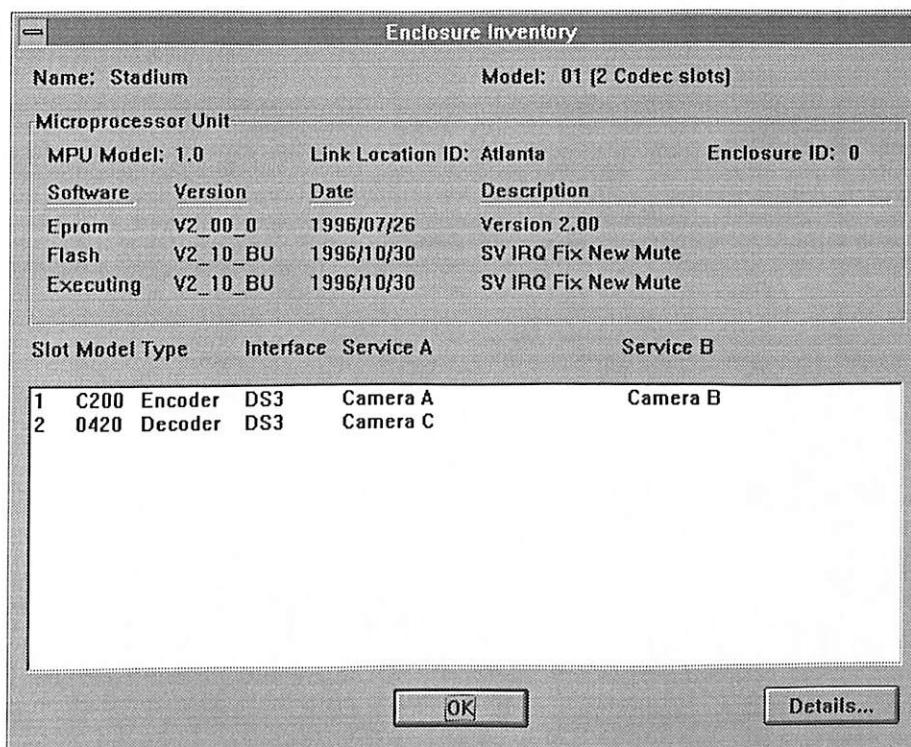


Figure 5-11 The Show Enclosure Inventory dialog

The following table describes the information provided in this dialog:

Area	Description
Enclosure Name	The name assigned to the DVT45
Enclosure Model	Identifies the type of DVT45 enclosure
Microprocessor Unit Area	
MPU Model	The model of the MPU board. This information is hard-coded on the board. It cannot be changed.
Link Location ID	The Link Location ID to which the MPU is connected
Enclosure ID	The RS485 port address
Software	Each MPU is programmed with software containing configuration information.
	Each board contains two complete configurations, the one currently in use, and the one that will run the next time you issue a reset of the MPU. This is to ensure uninterrupted service when you download a new version of the software.
Version	EPROM bank
Date	FLASH bank
Description	Executing
Codec Area	The version of the MPU software
Slot	The date the software was created
	A brief description of the version of the MPU software
	A slot in the enclosure occupied by a codec card. Codec slots are numbered from 1 to 12. This information is automatically detected by the RCS.

Model	The codec model identification number. Each codec is identified by the hard-coded number on the board. This number is automatically detected by the software.
Type	The type of codec in the slot
Service A	The name of the service
Service B	
<u>Details</u>	<u>Show codec configuration of this enclosure</u>

Show Enclosure Inventory descriptions

To view details of the codec's configuration, click on **Details**.

2. When you are done, click **OK** to close the dialog.

Viewing Codec Configurations

The View Codec Configurations dialog allows you to see the configurations of all the codecs of the enclosure you have selected. Two views are available; you can request the configuration from the RCS database or the current operating information from the MPU.

To view codec configurations:

1. From the Enclosure menu, select the Configure Codecs option and View suboption.

The View Codec Configurations dialog appears:

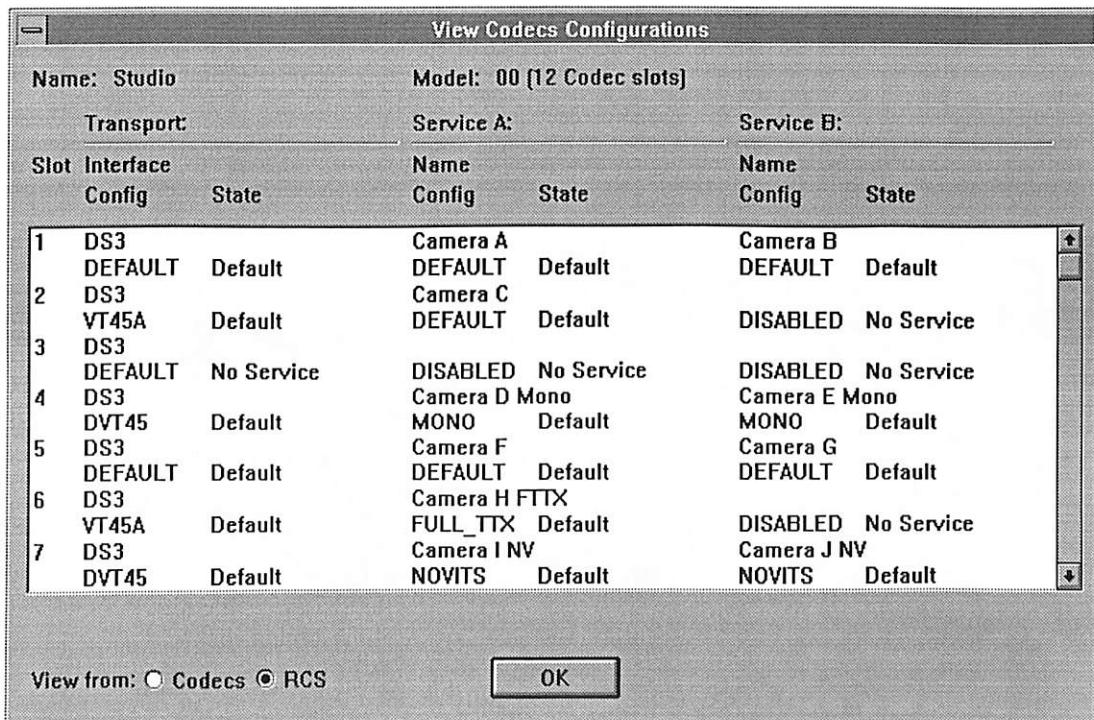


Figure 5-12 The View Codec Configurations dialog

For each codec, the interface type, transport configuration, state and services names, configurations, and states are listed on two lines.

The following table describes the information provided in this dialog:

Area	Description
Slot	Codec card number
Model	Codec hardware model number
Interface	Transport interface type (DS3 or E3)
Transport Configuration	Determines the number of video services carried and the bandwidth used
Service Names A & B	Service names assigned at the time of configuration
Service Configuration A & B	Determines the characteristics of video services carried and number of associated audio channels

View Codec Configuration descriptions

Select the RCS or Codec radio button, to switch between views from the RCS database and the MPU database.

The Show Enclosure Inventory dialog includes a Details button, which will call up the View Codec Configurations dialog.

Configuring Codecs

The codec boards in an enclosure encode or decode video, audio, and other signals, depending on their capabilities and configurations. There are four types of codec currently available:

- DS3: Dual video channels with DS-3 transport interface
- E3: Dual video channels with E3 transport interface
- DS3-SC: Single video channel with DS-3 transport interface
- E3-SC: Single video channel with E3 transport interface

The dual video channels codec can be configured with the following capabilities:

- 1 or 2 video services per board
- 1 to 3 audio channels per video service

The single video channel codec can be configured with the following capabilities:

- 1 video service per board (channel A only)
- 1 to 3 audio channels per video service

Each codec contains a default configuration information that determines the format and number of video, audio, and other signals it can process. This default configuration is different for each codec type.

By default, the dual video channels' codecs (DS3 or E3) are set to operate as outlined in the table below.

Item	Default Configuration
Number of services	2 NTSC video channels
Channel bandwidth	22 or 17Mbit/s (for DS3 or E3) - blanking removal
Number of audio	3 audio channels per video
VITS	4 lines (#16-#19), 8 fields sequence
Closed caption	in-band, 1 line (#21)

The default configuration of the single video channel codecs (DS3-SC or E3-SC) is the following:

Item	Default Configuration
Number of services	1 NTSC video channel (channel A only)
Channel bandwidth	45 or 34Mbit/s (for DS3 or E3) - blanking removal
Number of audio	3 audio channels per video
VITS	4 lines (#16-#19), 8 fields sequence
Closed caption	in-band, 1 line (#21)

Codec default mode of operation

Configuring a codec gives you precise control over its operating parameters and behavior.

By default, when a codec is installed and powered up, the MPU in the enclosure detects its presence automatically. Once detected, the MPU uses configuration information stored in its memory banks (NVRAM) to program the codec. The NVRAM information is defined using the RCS.

For protection purpose, the RCS also keep its own codec configuration database. In normal operation the RCS database is identical to that in the MPU memory. The RCS codec configuration database can be modified and downloaded in the MPU NVRAM, to be applied immediately. The modified RCS database can also be saved locally, to be applied later. This allow the codecs configuration preparation without being connected to the enclosure.

To configure a codec:

Note - To configure a codec, the RCS must be able to communicate with the enclosure MPU card. However, it is not necessary for the codec card to be installed.

1. Click the enclosure containing the codec you want to configure.
2. From the Enclosure menu, select the Configure Codecs option and Edit suboption.
-or-
1. Right-double-click on the codec slot you want to configure.

The Edit Codecs Configurations dialog appears:

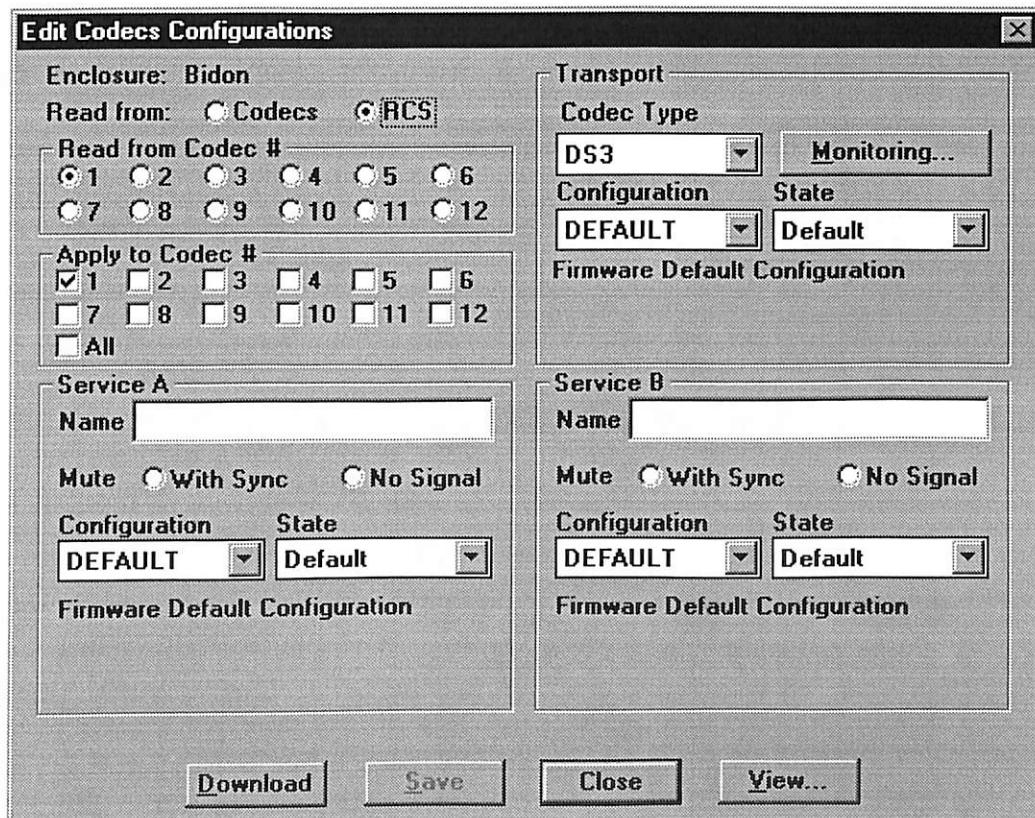


Figure 5-13 The Edit Codecs Configurations dialog

A codec can be configured with the following information:

Item	Description
Read from	Allows you to select whether the information is read from the RCS database or from the enclosure (MPU)
Read from codec #	Select the codecs to which the new configuration is read
Apply to codec #	Select the codecs to which the new configuration will be applied
Transport Interface	The type of interface required for your codec card. This will filter out transport and service configurations that are incompatible with the codec hardware.
DS3	45 Mb/s Interface (North American telephone standard)
E3	34 Mb/s Interface (European telephone standard)
DS3 Transport Configuration	Determines the number of video services carried and the bandwidth used for the DS3 interface codec Select the following transport configurations:
DEFAULT	Factory-set transport configuration, designed for use with or without the RCS. Initially, this is the same as the DVT45 configuration . Future cards might have different defaults.
DVT45	Default configuration, dual video channels (Service A and B) 22 Mb/s per service.
DVT45_V1	Firmware V1.XX default configuration, dual video channels, 22 Mb/s per service.
VT45A	Single video channel on Service A at 45 Mb/s.
VT45B	Single video channel on Service B at 45 Mb/s.
VT45NBA	Single video channel, non-blanking removal mode on Service A at 45 Mb/s.
VT45NBB	Single video channel, non-blanking removal

		mode on Service B at 45 Mb/s.
E3 Transport Configuration	Determines the number of video services carried and the bandwidth used for the E3 interface codec.	
Select one of the following transport configurations:		
DEFAULT	Factory-set transport configuration, designed for use with or without the RCS. Initially, this is the same as the DVT45 configuration (below). Future cards might have different defaults.	
DVT34	Default configuration, dual video channels (Service A and B) 17 Mb/s per service.	
VT34A	Single video channel on Service A at 34 Mb/s	

Configure Codec descriptions

Item	Description
	VT34B Single video channel on Service B at 34 Mb/s
Monitoring	To access the Transport Error Monitoring menu.
Service A Name	A name that describes the video source. The name set here appears in the service-related status dialogs.
Service B Name	
Mute	When the decoder is not able to output the video, the video output is muted. This mute can be done with or without video synchronization pulse.
Service Configuration	<p>The information that determines the format and number of video, audio, and other signals the codec can process.</p> <p>Note: In the service configuration descriptions, the default parameters apply unless otherwise indicated</p> <p>Make sure the configuration you give an encoder and its corresponding decoder(s) match</p> <p>Select one of the following service configurations:</p>
DEFAULT	<p>The factory-set codec configuration, designed for use with or without the RCS. For a DVT45 codec the DEFAULT setting is the same as the STANDARD, below. Future cards might have different defaults</p>
STANDARD	<p>AUDIO = 3 channels (stereo + SAP)</p> <p>VITS = lines 16-17-18-19, both fields</p> <p>Close caption Data = line 21, both fields</p>
ENHANC1	<p>The standard configuration with enhanced signal-to-noise ratio performance. This applies only to the DVT45 or default transport configurations.</p>
MONO	<p>AUDIO = 1 channel</p> <p>VITS = lines 16-17-18-19, both fields</p> <p>Close Caption Data = line 21, both fields</p>
NOVITS	<p>AUDIO = 3 channels (stereo + SAP)</p>

VITS = none

Close Caption Data = line 21, both fields

VITS = lines 16-17-18-19, both fields

AMOL Data = line 20, both fields

Close Caption Data = line 21, both fields

FULL_TTX	Full Teletext. Any combination of teletext, VITS, Close Caption data, AMOL data or any data on lines 10 to 21.
-----------------	--

Use with Transport Configuration VT45A, VT45B, VT34A, or VT34B only.

State	The desired operating state of the codec
In-service	Allows normal codec operation. If monitoring is enabled for the codec, the icon in the display is updated regularly. The MPU will react to alarms, take corrective action, and log events. On power-up, if a slot has been configured to in-service and no card is present, the MPU will issue a critical alarm (card removed).
Out-of-service	The MPU will initialize the codec for operation but will ignore all alarms and codec activity. Useful during maintenance operations.

Item	Description
No-service	The MPU will not initialize the codec. If a codec is inserted, it will not be initialized.
Default	Similar to in-service, but does not respond to removal of a card. That is, powering-down, removing a card, and powering-up will not result in any alarms.
Download	Updates the RCS database and the enclose with the displayed configuration. (The RCS must be connected to the enclosure)
Save	Updates the RCS database only
Close	Exits the dialog and do not save the changes
View	Calls up the View Enclosure dialog

Configure Codec descriptions

2. Select the specific codec to be configured.

When configuring a codec, make sure the configurations of the encoder and corresponding decoder(s) are compatible.

3. Configure any other necessary parameters.

Note - Your choice of codec configuration depends on the factory-defined software that has been made available via the drop-down Configuration list.

To configure codecs on-line:

1. For each codec you wish to configure, simply check the codec slot number before clicking on the Download button. This will save the configuration to the RCS database and send a copy to the enclosure.
2. Before the transfer occurs, you will be asked if you want to activate the new configuration. Click Yes to reset the codec and activate the new configuration.

WARNING ! Resetting a codec is a service-affecting operation—service is disrupted for a few seconds while the MPU reprograms the codec. You can activate the new configuration later by resetting the codec explicitly. For more information, see *Resetting the DVT45* on page 5-48.

To configure codecs off-line:

In previous versions, the RCS had to be connected to the enclosure to be able to read the codec's configurations. It always relied on the MPU database. Starting with V2.00 it is possible to perform all the configuration preparation without being connected to the enclosure.

1. After the new codec configuration has been selected, click on **Save** to update the RCS database.
2. To subsequently update the enclosure, connect to it using the **Synchronize** submenu of the Enclosure / Configure Codec options. This option is explained in the next section.

To configure a Transport Error Monitoring

To configure a Transport Error Monitoring, the RCS must be able to communicate with the enclosure. However, it is not necessary for the codec card to be installed.

1. Click the enclosure containing the codec you want to configure.

2. From the Enclosure menu, choose Configure codec.

-or-

Right-click on the codec you want to configure.

The Configure Codec dialog appears. A codec can be configured with the following information:

Click on the Monitoring button to get to the transport error monitoring function.

The Transport Error Monitoring dialog appears:



Figure 5-14 The Transport Error Monitoring dialog

A codec can be configured with the following information:

Item	Description
Codec Type	The type of codec that match your codec card. This will filter out transport and service configurations that are compatible with the codec hardware.
DS3	Dual video channels with DS-3 interface (45 Mbit/s, North American telephony standards)
E3	Dual video channels with E3 interface (34 Mbit/s, European telephony standards)
DS3-SC	Single video channel with DS-3 interface
E3-SC	Single video channel with E3 interface
Alarm Threshold	Dialog that include the type of error used in the error configuration, minor alarm, and major alarm.
Based on	<p>Type of error used in the error configuration caused by the transport:</p> <ul style="list-style-type: none"> • BER (DS3 and E3) : Bit Error Rate; • LCV (E3) : Line Coding Violation per 10 minutes; • PPC (DS3) : P-bit Parity Performance counter per 10 minutes; <p>When this field is modified, so are the Major/Minor Alarms.</p>
Minor Alarm	The value of the threshold indicates the maximum tolerance before setting a major alarm type. Example: When the indicator is set on BER, the selection lies between 10-4 and 10-9
OK	Exits the dialog and saves the changes in the meantime.
Cancel	Exits the dialog but do not save the changes.
Defaults	Enables the user to put back the default configuration recommended by the RCS.

Synchronizing RCS and Enclosure Configurations

In normal operation the configuration information in the RCS database is identical to that in the DVT45 enclosures. If some component fails, this may no longer be true. You will have to re-establish this identity. The Synchronize configurations function is used in the following situations:

- To update the MPU codec configurations after a MPU hot-swap or problems.
- To recover the RCS database from the network after PC problems.
- To compare the MPU and RCS databases if you suspect problems.

To view the Synchronize Codec Configurations dialog

1. From the **Enclosure** menu, select the **Configure Codecs** option and **Synchronize** suboption.

The Synchronize Codecs Configurations dialog appears:

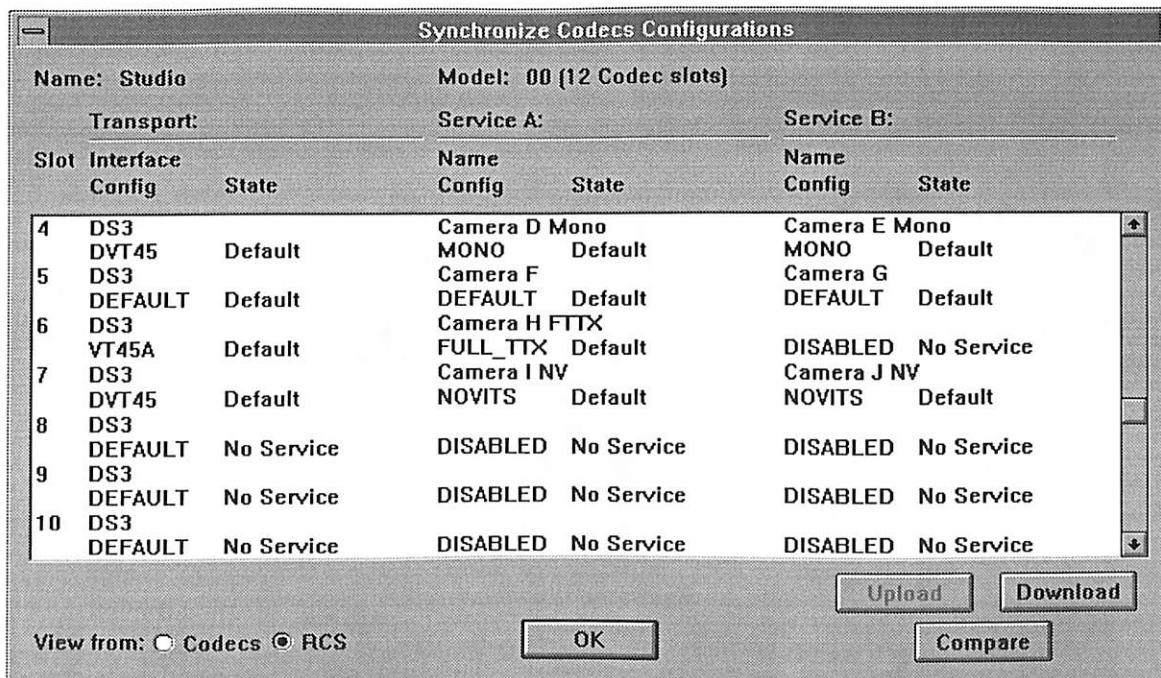


Figure 5-15 The Synchronize Codecs Configurations dialog

This dialog contains the same information as the View Codecs Configurations dialog. It also adds three new buttons for triggering new actions.

To update the enclosure codec's configurations from the RCS database:

1. Click the Download button.

The RCS will update all the codec's from this enclosure with configurations from its database. You will also be asked if you wish to reset the codec's to re-initialize them.

To update the RCS database from the enclosure codec's configurations

1. Click the Upload button.

The RCS will update its database for all the codec's from this enclosure with configurations from the MPU database.

To compare the enclosure codec's configurations and RCS database

1. Click the Compare button.

The RCS will compare its database with that of the enclosure MPU. Any mismatch will be reported on screen and you will be asked if you want to update the RCS or the enclosure, ignore the difference, or abort the operation.

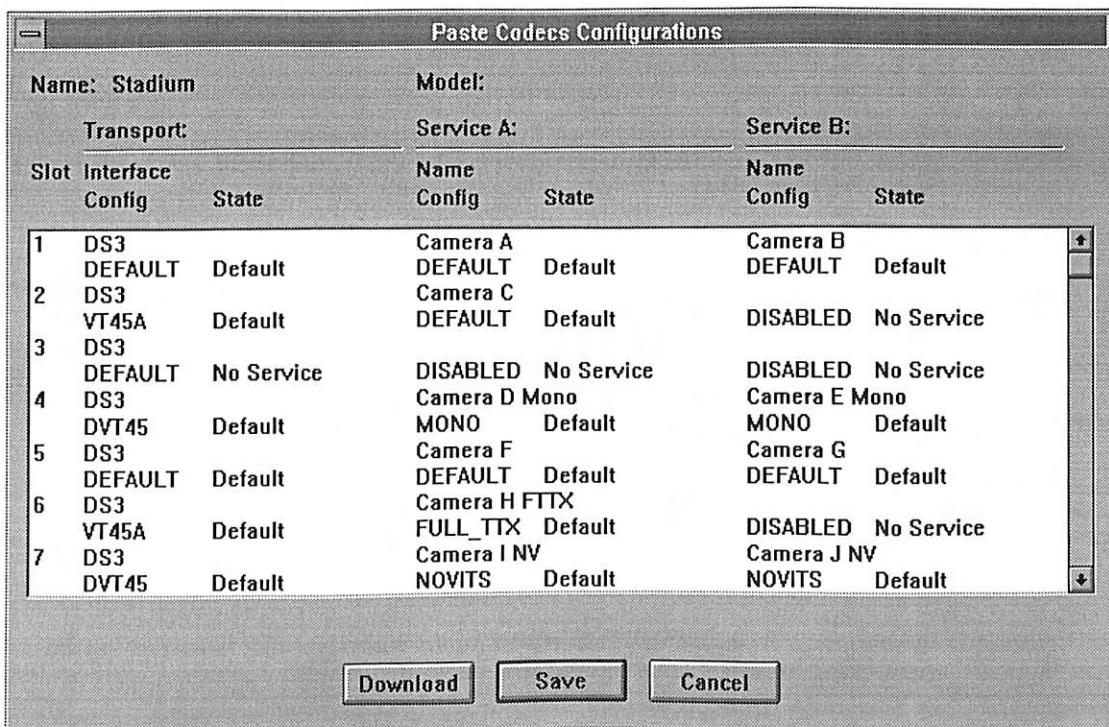
Codecs Configurations Comparison							
Enclosure: Studio			Codec: Codec #2				
Transport:		Service A:		Service B:			
Config	State	Config	State	Config	State	Config	State
RCS Codec	DVT45 DVT45	Default Default	STANDARD ENHANC1	Default Default	STANDARD ENHANC1	Default Default	
Differences found for codec #2							
<input type="button" value="Upload"/>		<input type="button" value="Download"/>		<input type="button" value="Ignore"/>		<input type="button" value="End"/>	

Figure 5-16 The Codec's Configurations Comparison dialog

Copy and Paste Enclosure Configurations

Most networks use a symmetric organization in which the same configuration is used in many enclosures. With the Copy and Paste menu, the operator may configure the network more efficiently using the following procedure:

1. Select the first enclosure (e.g., click on the enclosure icon once).
2. (Optional) Configure the enclosure using the Edit Codec Configurations dialog.
3. Use the Copy submenu from the Enclosure / Configure Codec menu. This will copy the enclosure configuration from the RCS database to an internal clipboard.
4. Select the destination enclosure (e.g., click on the destination enclosure icon once).
5. Use the Paste submenu from the Enclosure / Configure Codec menu. The configuration will be displayed in the Paste Codecs Configurations dialog:

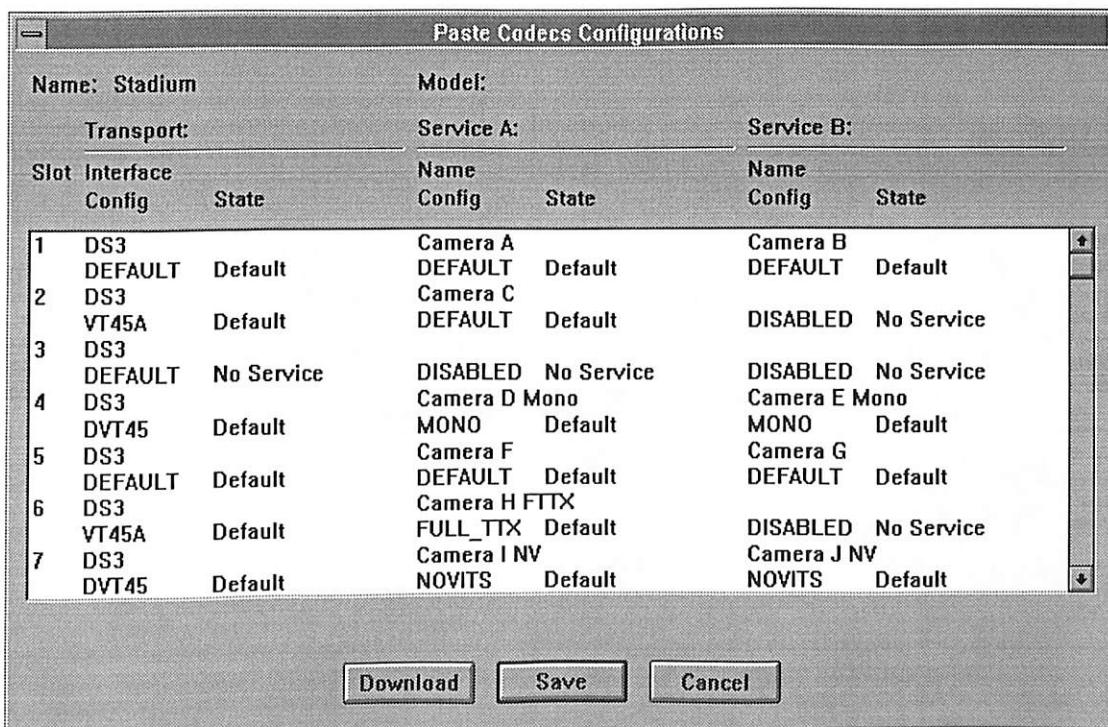


You will then be asked if you want to save the configurations to the RCS database, download them to the enclosure, or abort the operation.

Copy and Paste Enclosure Configurations

Most networks use a symmetric organization in which the same configuration is used in many enclosures. With the Copy and Paste menu, the operator may configure the network more efficiently using the following procedure:

1. Select the first enclosure (e.g., click on the enclosure icon once).
2. (Optional) Configure the enclosure using the Edit Codec Configurations dialog.
3. Use the Copy submenu from the Enclosure / Configure Codec menu. This will copy the enclosure configuration from the RCS database to an internal clipboard.
4. Select the destination enclosure (e.g., click on the destination enclosure icon once).
5. Use the Paste submenu from the Enclosure / Configure Codec menu. The configuration will be displayed in the Paste Codecs Configurations dialog:



You will then be asked if you want to save the configurations to the RCS database, download them to the enclosure, or abort the operation.

Loading and Saving an Enclosure Configuration

The Load Configurations and Save Configurations options perform the same actions as the Copy and Paste functions except that they use a file rather than the internal clipboard. This is useful when you wish to copy configurations onto another disk for archiving.

Operation	Source	Destination
Copy	RCS database	Internal Clipboard
Paste	Internal clipboard	RCS database and enclosure
Load	File	RCS database and enclosure
Save as	RCS database	File

Edit Configuration functions

Removing a Codec

Removing a codec card from an enclosure while it is in service will cause a critical alarm for the associated slot. To clear the alarm, you must reinsert a codec in this slot, or reset the codec as explained in the section on *Resetting the DVT45* on page 5-47. Resetting the removed codec will clear all alarms on the slot, and change the color to white on the enclosure icon unless the codec state is set to *In Service*. In this case, the slot will stay red until the state is changed or a new codec is inserted.

Removing a codec that is no longer necessary disables monitoring and frees system resources. If the codec has been permanently removed, it is recommended that you change the codec state to *No Service* (see section on *Configuring Codecs* on page 5-31) to disable alarm monitoring.

Resetting the DVT45

WARNING! Resetting a codec is required to activate new firmware upgrades to the MPU or new codec configurations. It is also recommended when you suspect a board might be faulty, but want to investigate further before replacing it. Resetting a codec clears its registers and re-initializes it.

Resetting a codec will disrupt the service for a few seconds.

Resetting just the MPU will not affect operation of the codecs if you are using version 1.10 (or higher) of the RCS and MPU firmware.

To reset the MPU or codecs:

1. Click the appropriate enclosure in the Network Summary window.
2. From the Enclosure menu, choose Reset.

The Reset dialog appears identifying the enclosure by name. It contains a check box for each element in the enclosure that can be reset.

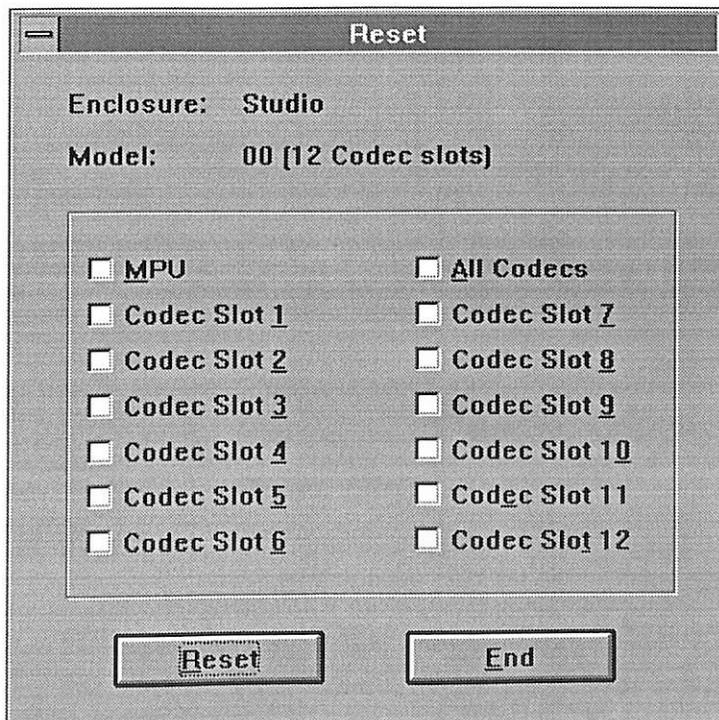


Figure 5-17 The Reset dialog

The following table describes the items in the Reset dialog:

Item	Description
Enclosure	The name given to this enclosure
Model	The type of DVT45 enclosure.
MPU	Select this item to reset the MPU
Codec Slot	Select this item to reset all codecs in the enclosure
Reset	Proceed with the reset
End	Exit the dialog

Reset descriptions

3. Select the item to be reset by clicking the checkbox beside it.
An “x” in the checkbox indicates it is selected.
4. Click **Reset**.

When asked to confirm your choice, click **OK** to proceed with the reset or **Close** to cancel.

Note - The reset process for the MPU takes about 30 seconds.
Additional time is required for resetting the selected codecs.

5. Click **End** to exit the dialog.

Updating Enclosure Time from the RCS

The MPU uses the date/time information when logging alarms and event.

The RCS adds the ability to program one or all MPUs with the date and time from the PC clock when requested by the operator. The new Enclosure / Update Time menu option has been added for this purpose.

To update the date and time for an enclosure

1. Select the enclosure by clicking on it in the Network Summary window.
2. Select the Enclosure / Update Time menu option.

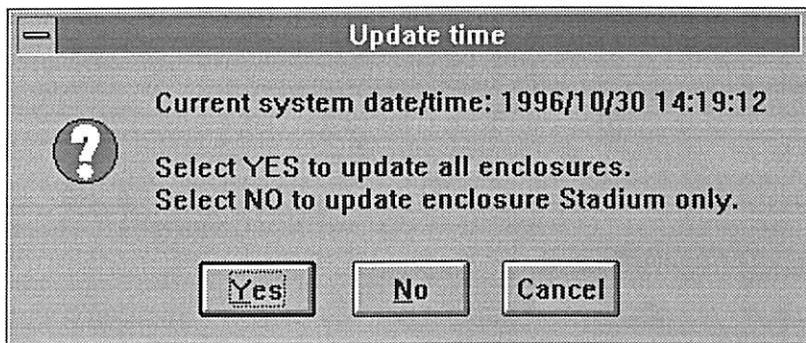


Figure 5-18 The Update Time dialog

A dialog will display the current date and time and ask you if you want to update all enclosures or only the selected one, or to cancel the procedure. If you proceed, the RCS will read the time again from the PC and send a copy to the enclosure(s) as requested.

Test LEDs

This function is used to verify the enclosure front panel LEDs of the MPU and the codecs card. This function requires MPU firmware 2.30 (or higher).

During the test, all the LEDs of the selected card are on unless one of the LEDs is burnt. This function is also useful for locating a particular enclosure when several DVT45 enclosure are in the same room.

The test LEDs can also be used to detect duplicated enclosure IDs. If you suspect duplicated enclosure IDs on a particular RS-485 chain, select one of the enclosures and start the test LEDs. The front panel LEDs of all the MPUs with the same enclosure IDs switch on.

The test LEDs do not change the codecs or the MPU service status.

To test the MPU or codecs front panel LEDs:

1. Click the appropriate enclosure in the Network Summary window.
2. From the Enclosure menu, choose Test LEDs.

The Test LEDs dialog appears, identifying the enclosure by name. It contains a check box for each element in the enclosure that can be tested.

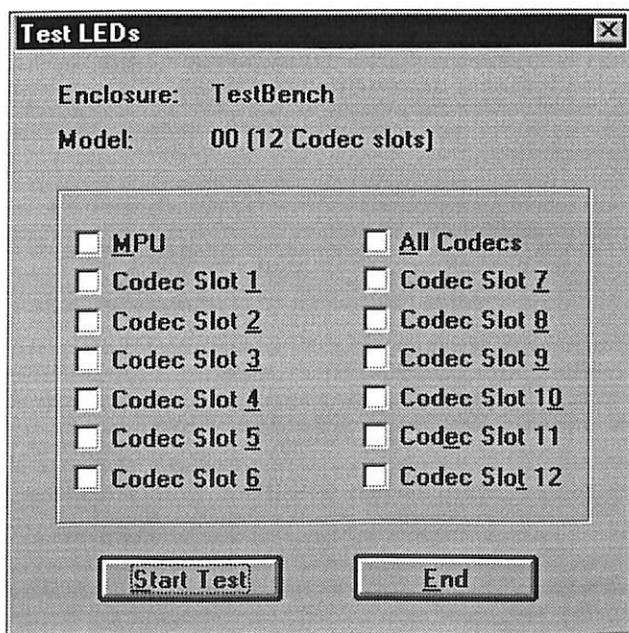


Figure 5-19 Test Front Panel LEDs

The following table describes the items in the Test LEDs dialog:

Item	Description
Enclosure Name	Identifies the name given to this enclosure.
Enclosure Model	Identifies the type of DVT45 enclosure. ABL currently supports a 2-slot and a 12-slot codec enclosure.
MPU	Select this item to test the MPU LEDs.
Codec Slot n	Select the codec to be tested.
All Codecs	Select this item to test the LEDs on all codecs in the enclosure.
Start Test	Proceed with the test LEDs.
End	Exit the dialog.

3. Select the item to be tested by clicking the checkbox beside it. An x in the checkbox indicates it is selected.
4. Click Start Test. Verify the front panel LEDs on the selected item and click OK to terminate the test.
5. Click End to exit the dialog.

Arranging the Enclosures Icons

The enclosure icons can be sorted by name or by location ID name. The arrange option lets the user select the horizontal and the vertical spacing between the icon. The user can also use the auto arrange function to maximize the enclosure icon organization. With this option, the enclosure icon can be easily swapped by moving an icon over the other one.

To arrange the enclosure icons:

1. Highlight the Network Summary window by clicking anywhere on it.
2. From the Window menu, select Arrange Icons and then select the proper sub-option to sort the icons by Enclosure Name or by Location ID.

To enable the auto arrange icons:

1. Highlight the Network Summary window by clicking anywhere on it.
2. From the Window menu, select Arrange Icons and then select Options.

The Arrange Icons Options dialog appears.

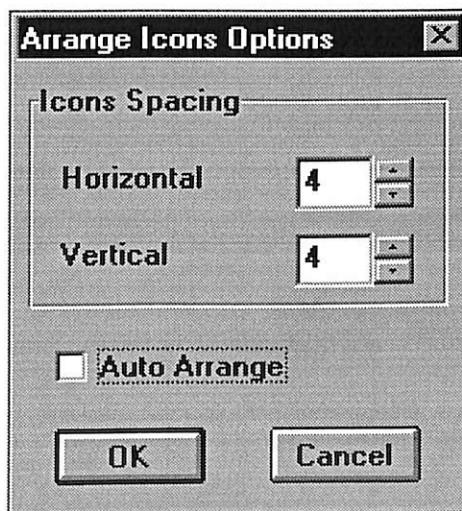


Figure 5-20 Arrange Icons Options

Provide the following information:

Item	Description
Horizontal and Vertical Spacing	Indicate the number of pixels that will be used to separate the enclosure icons.
Auto Arrange	Enable or disable the automatic icons arrangement.
OK	Save the arrange icons options and exit.
Cancel	Exit without saving the arrange icons options.

3. Click OK to save and activate the new Arrange Icons options.

Letter Of Transmittal

To: Dr. Marjorie Davis

From: Pascal Occean

Date: September 10, 1998

To complete the requirements for graduation, I performed an internship during the summer of 1998 with ABL Canada. This report details what I performed and learned during this experience. I have also included samples of the documentation I worked on during the summer.

I am excited to say that I successfully met all the objectives that I had set for myself prior to this internship. This experience was highly educational, and I am proud of the progress I made as an individual.

I would like to thank you for giving me the necessary tools that I needed to succeed in this experience.

Sincerely,

Pascal Occean