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Dallas National Marketing and Technical Support Center

Local Area Network
Asynchronous Connection Server (LANACS)
Configuration Samples, Tips, and Techniques

Local Area Network Asynchronous Connection Server (LANACS) Configuration Samples, Tips, and Techniques

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M. J. Colucci

IBM Corporation Establishment Telecommunications Technical Support Programs 1000 N.W. 51st Street Boca Raton, FL 33432

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Preface

This document contains a collection of LANACS scenarios using various PC types, modems, speeds, protocol characteristics, and applications.

This document is intended for IBM system engineers and customer installation personnel.

The two applications used were Crosstalk® and YTERM©1.

The reference to software programs in this publication are provided for the convenience of the customer and are not endorsed by IBM. Nor is the reference to be construed as a guarantee that the programs will satisfy the particular customer requirement. Other companies or organizations' programs may work as well. Users are responsible to decide whether these or other programs will satisfy their needs. Customers should contact the companies or organizations offering software to obtain further information.

The configurations included in this publication are intended as a guide to help the customer configure the product. There are many considerations that enter into establishing a useful connection. These considerations can make the configuration of a small network into a complex procedure.

Related publication:

IBM Local Area Network Asynchronous Connection Server Program Installation and Configuration Guide, SC30-3509.

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YTERM	1 Installation					 . .	 	 	 	 	
YTERN	1 Instructions					 	 	 	 	 	

Considerations

Following are a few of the factors that must be taken into consideration:

- Proper cables
- Proper physical connection to the intended equipment
- Modem switches
- Proper software levels
 - Depending on whether you use a token ring or a particular PC network, the following may be required:
 - IBM Local Area Network Support Program.
 - IBM PC Network Protocol Driver.
 - With an IBM Realtime Interface Co-Processor Multiport Adapter, the IBM Realtime Control Program DOS Support Version 1.03 is required.
 - With an IBM Realtime Interface Co-Processor Multiport/2 Adapter, the IBM Realtime Interface Co-Processor DOS Support Version 1 is required.
- Modem compatibility: speed, parity, stop bits, and data bits
- Application compatibility: speed, parity, stop bits, and data bits
- LCS.CFG speed, parity, stop bits, and data bits compatible with communications equipment and applications
- LCS.CFG netnames matching what the application expects or sends
- Whether or not asserted leads are necessary in LCS.CFG
- Proper phone numbers used
- Proper telephone and jack installation
- Possibility of the wrong LCS.CFG file being used depending on DOS PATH
- Using correct LANACS interface, ACSI or EBI
- Proper input from application

Miscellaneous Tips

Haves Modem Switch Settings

The settings used for the scenarios in this publication for Hayes 300 bps and Hayes 1200 bps modems were:

Switch: 1 2 3 4 5 6 7 8 Setting: U D D D U U U D

The following Hayes switch settings will allow communicating without asserting DSR in the configuration file. However, the definition of the switches may then be a bit confusing. This switch configuration has been used successfully in at least one test:

Communications Equipment

Modems connected to the wrong port will result in a "Waiting for DSR" indication.

While trying different scenarios, communications equipment may have to be switched around. If there is a failure, before changing your configuration file, check the physical continuity of your connection. If you do switch equipment to different ports, be sure to change your configuration file immediately before you forget what changes were made.

On an outgoing line, DSR may have to be asserted in the configuration file. One could make it a practice of including "asserted leads = DSR" on their outgoing line configurations.

If your communication lines are going through multiple lines on the same telephone, be aware that there is a possibility of a short between jacks attached to the phone. In one instance a 300 bps modem was plugged into one jack and a 1200 bps in another. Both were connected to an RTIC card. The two phone numbers happened to be wired incorrectly. When the remote modern answered the phone, the local modern that was not in use went on hook and both a 300 bps and a 1200 bps tone were generated and no modern connection could be established

When configuring Crosstalk screens and the server configuration file for modem characteristics of speed, parity, and data bits; the LAN workstation Crosstalk is ignored. The server and remote characteristics are the pair that must match. Keep in mind that the TARGET configuration will take precedence over the ADAPTER configuration.

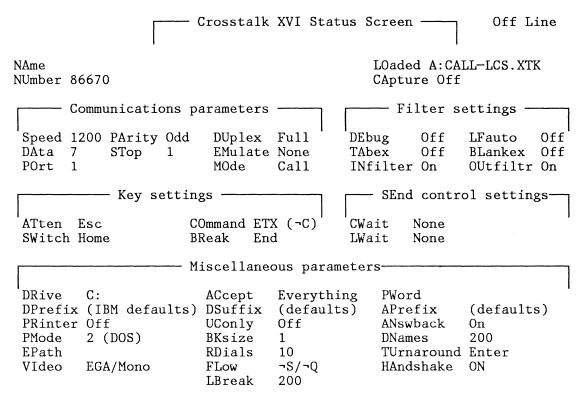
SCENARIO 1: Remote Calls LAN at 1200 bps - Crosstalk

IBM Internal 1200 Calls Hayes 1200

The remote terminal using Crosstalk calls through an IBM internal modem at 1200 bps to a LAN workstation using Crosstalk. The LANACS server is using port 7 of the RTIC card attached to a Hayes 1200 modem. The LAN workstation will answer anyone calling the service netnames of "XTALK" by asking for the destination name (service) "Crosstalk".

```
disp
       type=status
       refresh_rate=30
       new_page=-19-1bH
con
       type=console
       keyboard=unlocked
connect disp to con
*INCOMING
XTALKS7
        type=NETBIOS orientation=ORIGINATE
        protocol=ACSI nametype=UNIQUE
MODEM7
        type=RTICM orientation=ANSWER
        adapter=0
                      port=7
                                 mode=FIXED
        speed=1200
                     parity=ODD data_bits=7
connect MODEM7 to XTALKS7
******** Request Manager *********
REQM1
       type=REQMGR
 service=Crosstalk service_netname=XTALK
```

Remote Workstation Calls the LAN at 1200 bps



The DP, DS, and AP parameters default to the modem type defined during setup.

LAN Workstation Answering Anyone Calling For "XTALK"

		Crossta	alk XVI Stat	us Screen —	Off Line
NAme NUmber	ANSWER-LCS-IN	COMING		LOaded C: CApture (:ANS-LCS.XTK Off
	Communication	s paramete	ers —	Filter	r settings —
Speed DAta POrt	1200 PArity 0 7 STop 1 1	•	ex Half ate None Answer	DEbug Off TAbex Off INfilter On	f BLankex Off
	Key set	Ū			ntrol settings—
ATten SWitcl	Esc n Home	COmmand BReak	ETX (¬C) End	CWait None	_
		— Miscella	aneous param	eters	
DRive DPrefi PRinto PMode EPath VIdeo	er Off 2 (DOS)	ACcept DSuffix UConly BKsize RDials FLow LBreak	Everything Off 1 10 ¬S/¬Q 200	PWord APrefix ANswback DNames TUrnaround HAndshake	XTALK On 200 Enter ON

SCENARIO 2: LAN Calls Remote at 1200 bps - Crosstalk

Hayes 1200 Calls IBM Internal 1200

A LAN terminal using Crosstalk calls to a remote workstation using Crosstalk. The LANACS server is using port 7 of the RTIC card attached to a Hayes 1200 modem. The remote workstation is using an IBM internal 1200 bps modem. The LANACS request manager will look under the netname "MODEMS" supplied by the Crosstalk user. The Crosstalk target, "T:XTALK", will be found by the request manager. It supplies the proper phone number and points to the pool to be used, "TOREMOTES", for devices to be connected to the LAN session, "XTALKS7".

```
disp
        type=status
        refresh_rate=30
       new_page=-19-1bH
con
        type=console
       keyboard=unlocked
connect disp to con
*OUTGOING
XTALKS7
        type=NETBIOS orientation=ANSWER
        protocol=ACSI nametype=UNIQUE
H1200
        type=RTICM
                      orientation=ORIGINATE
        adapter=0
                      port=7
                                  mode=FIXED
        asserted_leads=DSR
connect XTALKS7 to H1200
********* Request Manager *********
REQM1
       type=REQMGR
 pool=TOREMOTES devices=H1200
     netname=MODEMS
                      nametype=UNIQUE
                      pool=TOREMOTES
     target=XTALK
                                        phone=86659
     speed=1200
                      parity=ODD
                                        data_bits=7
```

A LAN Workstation Calls the Remote Workstation at 1200 bps

	— Crosstalk	XVI Status	Screen -	Off Line
NAme LCS-CALL-REMO' NUmber T:XTALK	ГЕ		LOaded C:CAL CApture Off	L-LCS.XTK
Communication	s parameters		Filter se	ettings —
Speed 1200 PArity 0				LFauto Off
DAta 7 STop 1	EMulate			BLankex Off
POrt 1	MOde	Call IN	filter On	OUtfiltr On
Key set	J		- SEnd contro	ol settings—
ATten Esc	COmmand ETX	(¬C) CW	ait None	•
SWitch Home	BReak End	. LW.	ait None	
	- Miscellaneo	us paramete	rs	
DRive C:	ACcept	Everything	PWord	•
DPrefix MODEMS	DSuffix		APrefix	
PRinter Off	${\tt UConly}$	Off	ANswback	On
PMode 2 (DOS)		1	DNames	200
EPath		10	TUrnaround	
VIdeo EGA/Mono		¬S/¬Q	HAndshake	ON
	${ t LBreak}$	200		

Remote Workstation Answering Anyone Calling Its Number

	(Crosstalk	XVI Stat	us Sc	reen —	Off Li	ne
NAme A NUmber	Answer-Lcs-Incom	ING			Oaded A:AN Apture Off		
[(Communications pa	arameters		<u> </u>	— Filter s	ettings —	
DAta	1200 PArity Odd 7 STop 1 1	DUplex EMulate MOde		DEbu TAbe INfi		LFauto BLankex OUtfiltr	Off Off On
Key settings ————————————————————————————————————							
ATten SWitch		Ommand ET Reak End		CWai LWai			•
ſ	M:	iscellane	ous param	eters			
DRive DPrefix PRinter PMode EPath VIdeo		ACcept DSuffix UConly BKsize RDials FLow LBreak	Off 1	s)	PWord APrefix ANswback DNames TUrnaround HAndshake	(defaults On 200 Enter ON	;)

The DP, DS, and AP commands default to the modern specified during setup.

SCENARIO 3: Remote Calls LAN at 300 bps - Crosstalk

Hayes 300 Calls Hayes 1200

The remote terminal using Crosstalk calls through a Hayes 300 modem to a LAN workstation using Crosstalk. The LANACS server is using port 7 of the RTIC card attached to a Hayes 1200 modem set to 300 bps. The LAN workstation will answer anyone calling the service netname of "XTALK" by asking for the destination name (service) "Crosstalk".

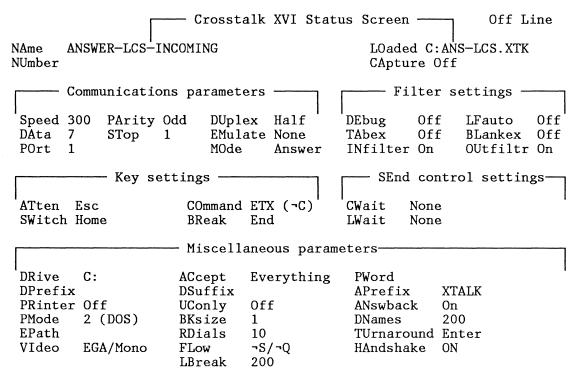
```
disp
       type=status
       refresh_rate=30
       new_page=-19-1bH
con
       type=console
       keyboard=unlocked
connect disp to con
*INCOMING
XTALKS7
        type=NETBIOS orientation=ORIGINATE
        protocol=ACSI nametype=UNIQUE
H1200
        type=RTICM orientation=ANSWER
                      port=7
                                 mode=FIXED
        adapter=0
        speed=300
                      parity=ODD data_bits=7
connect H1200 to XTALKS7
******** Request Manager ********
REQM1
       type=REQMGR
 service=Crosstalk service_netname=XTALK
```

Remote Workstation Calls the LAN at 300 bps

	Γ	- Cro	osstalk :	XVI Statı	ıs Scr	een —	Off L	ine
NAme	1					aded A:CAI	LL-LCS.XT	K
NUmber	866/0				CA	pture Off		
	Communications	para	ameters ·			Filter se	ettings —	
Speed	•		OUplex		DEbug		LFauto	Off'
DAta POrt	7 STop 1		EMulate : MOde	None Call	TAbex	Off ter On	BLankex OUtfiltr	Off On
1010	1		lode	Oall	111111	cer on	OOCITICI	OII
	Key sett:	ings			SI	End contro	ol setting	gs—
ATten			nand ETX		CWait			,
SWitch	n Home	BRea	ak End		LWait	None		
[Misc	cellaneo	us parame	eters-			
DRive DPrefi PRinte PMode EPath VIdeo		lts)	ACcept DSuffix UConly BKsize RDials FLow LBreak	Òff		PWord APrefix ANswback DNames TUrnarour HAndshake	On 200 nd Enter	lts)

The DP, DS, and AP parameters default to the modem type defined during setup.

LAN Workstation Answering Anyone Calling for "XTALK"



Command?

The speed on the Crosstalk screen of the LAN workstation does not matter. The speed is determined by the LCS.CFG file.

SCENARIO 4: LAN Calls Remote at 300 bps - Crosstalk

Hayes 1200 Calls Hayes 300

A LAN terminal using Crosstalk calls to a remote workstation using Crosstalk. The LANACS server is using port 7 of the RTIC card attached to a Hayes 1200 modem configured to run at 300 bps. The remote workstation is using a Hayes 300 bps SmartmodemTM. The LANACS request manager will look under the netname, "MODEMS", supplied by the Crosstalk user. The Crosstalk target, "T:XTALK", will be found by the request manager. It supplies the proper phone number and points to the pool to be used, "TOREMOTES", for devices to be connected to the LAN session, "XTALKS7".

```
disp
        type=status
        refresh_rate=30
        new_page=-19-1bH
con
        type=console
        keyboard=unlocked
connect disp to con
*OUTGOING
XTALKS7
         type=NETBIOS orientation=ANSWER
         protocol=ACSI nametype=UNIQUE
H1200
                      orientation=ORIGINATE
         type=RTICM
                      port=7
         adapter=0
                                  mode=FIXED
         asserted leads=DSR
connect XTALKS7 to H1200
******** Request Manager ********
REQM1
       type=REQMGR
 pool=TOREMOTES devices=H1200
     netname=MODEMS
                      nametype=UNIQUE
                      pool=TOREMOTES
     target=XTALK
                                        phone=86659
     speed=300
                      parity=ODD
                                        data_bits=7
```

A LAN Workstation Calls the Remote Workstation at 300 bps

		— Crosstalk	XVI Stati	us Screen ——	Off Line
NAme NUmber	LCS-CALL-REMO T:XTALK	ГЕ		LOaded C:CA CApture Off	
	Communication	s parameters		Filter s	ettings —
Speed DAta POrt	7 STop 1			DEbug Off TAbex Off INfilter On	BLankex Off
	Key set	tings ———		SEnd contr	ol settings—
ATten SWitcl	Esc n Home	COmmand ET BReak En		CWait None LWait None	l
		- Miscellane	ous param	eters	
	C: ix MODEMS er Off	ACcept DSuffix UConly	Everythin Off	ng PWord APrefix ANswback	On
PMode EPath	2 (DOS)	BKsize	1 10	DNames TUrnaround	200
VIdeo	EGA/Mono	FLow LBreak		HAndshake	ON

Remote Workstation Answering Anyone Calling Its Number

		- Crosstalk	XVI Statı	ıs Scre	en —	Off Line
NAme NUmber	ANSWER-LCS-INC	OMING			ded A:ANS- oture Off	-LCS.XTK
	Communications	parameters ·]	<u> </u>	Filter se	ttings —
Speed DAta POrt		EMulate 1	Half None Answer	DEbug TAbex INfilt	Off	LFauto Off BLankex Off OUtfiltr On
	Key sett	ings ———		SE	and contro	l settings—
ATten SWitch	Esc n Home	COmmand ETX BReak End		CWait LWait	None None	ı
		Miscellaneo	us parame	eters—		
	C: ix (Hayes defau er Off 2 (DOS) EGA/Mono	ACcept lts) DSuffix UConly BKsize RDials FLow LBreak	Everyth (defaut Off 1 10 ¬S/¬Q 200	lts)	PWord APrefix ANswback DNames TUrnaround HAndshake	(defaults) On 200 d Enter ON

The DP, DS, and AP commands default to the modem type defined during setup.

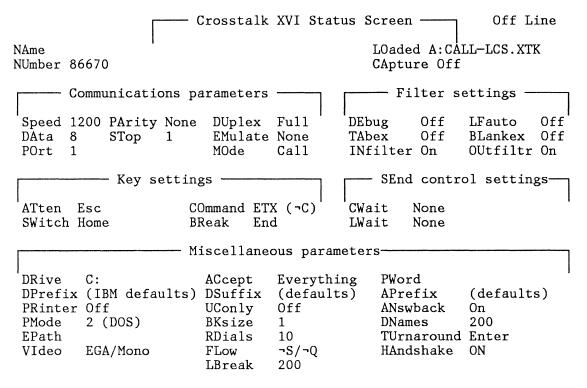
SCENARIO 5: Remote Calls LAN at 1200 bps - Crosstalk

IBM Internal 1200 Calls Hayes 2400

The remote terminal using Crosstalk calls through an IBM internal modem at 1200 bps to a LAN workstation using Crosstalk. The LANACS server is using port 1 of the RTIC card attached to a Hayes 2400 modem. The configuration file specifies a speed of 1200 bps for this modem. The LAN workstation will answer anyone calling the service netname of "XTALK" by asking for the destination name (service) "Crosstalk".

```
disp
       type=status
       refresh rate=30
       new_page=-19-1bH
       type=console
con
       keyboard=unlocked
connect disp to con
*INCOMING
XTALKS1 type=NETBIOS orientation=ORIGINATE
        protocol=ACSI nametype=UNIQUE
H2400
        type=RTICM orientation=ANSWER
                     port=1
        adapter=0
                                 mode=FIXED
                     parity=NONE data_bits=8
        speed=1200
connect H2400 to XTALKS1
******** Request Manager *********
REQM1
       type=REQMGR
 service=Crosstalk service_netname=XTALK
```

Remote Workstation Calls the LAN at 1200 bps



The DP, DS, and AP parameters default to the modem type defined during setup.

LAN Workstation Answering Anyone Calling for "XTALK"

!	Crosst	alk XVI Stat	us Screen ——— Off Line	,
NAme ANSWER-LCS- NUmber	·INCOMING		LOaded C:ANS-LCS.XTK CApture Off	
Communicati	ons paramet	ers —	Filter settings	\neg
Speed 1200 PArity DAta 8 STop POrt 1		ate None	DEbug Off LFauto Of TAbex Off BLankex Of INfilter On OUtfiltr On	f
Key s	ettings —		SEnd control settings-	
ATten Esc SWitch Home	COmmand BReak	ETX (¬C)	CWait None LWait None	'
	Miscell	aneous param	neters	\neg
DRive C: DPrefix	ACcept DSuffix	Everything	PWord APrefix XTALK	1
PRinter Off	UConly	Off	ANswback On	
PMode 2 (DOS) EPath	BKsize RDials	1 10	DNames 200 TUrnaround Enter	
VIdeo EGA/Mono	FLow LBreak	¬S/¬Q 200	HAndshake ON	

SCENARIO 6: LAN Calls Remote at 1200 bps - Crosstalk

Hayes 2400 Calls IBM Internal 1200

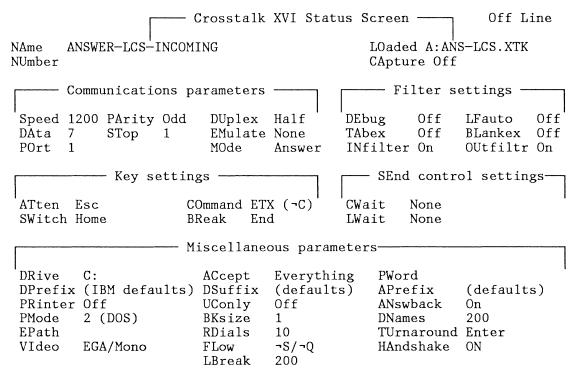
A LAN terminal using Crosstalk calls a remote workstation using Crosstalk. The LANACS server is using port 1 of the RTIC card attached to a Hayes 2400 modem. The configuration file specifies a speed of 1200 bps for this modem. The remote workstation is using an IBM internal 1200 bps modem. The LANACS request manager will look under the netname, "MODEMS", supplied by the Crosstalk user. The Crosstalk target, "T:XTALK", will be found by the request manager. It supplies the proper phone number and points to the pool to be used, "TOREMOTES", for devices to be connected to the LAN session, "XTALKS1".

```
disp
       type=status
       refresh_rate=30
       new_page=-19-1bH
con
       type=console
       keyboard=unlocked
connect disp to con
*OUTGOING
XTALKS1
        type=NETBIOS orientation=ANSWER
        protocol=ACSI nametype=UNIQUE
                      orientation=ORIGINATE
H2400
        type=RTICM
                      port=1
        adapter=0
        asserted_leads=DSR
connect XTALKS1 to H2400
******** Request Manager *********
REQM1
       type=REQMGR
 pool=TOREMOTES devices=H2400
     netname=MODEMS
                      nametype=UNIQUE
     target=XTALK
                      pool=TOREMOTES
                                        phone=86659
                                        data_bits=7
     speed=1200
                      parity=ODD
```

A LAN Workstation Calls the Remote Workstation at 1200 bps

		- Crosstalk	XVI Stati	us Scr	reen —	Off L	ine
NAme NUmber	LCS-CALL-REMOT	E			aded C:CA Apture Off		K
	Communications	parameters			- Filter s	ettings —	
DAta	1200 PArity Ode 7 STop 1 1	d DUplex EMulate MOde			g Off c Off lter On	BLankex	
	Key sett	ings ———		8	End contr	ol settin	gs-
ATten SWitch	Esc n Home	COmmand ETZ BReak End		CWait LWait			l
		Miscellane	ous param	eters-			
	ix MODEMS er Off 2 (DOS)	ACcept DSuffix UConly BKsize RDials FLow LBreak	10	A A I	PWord APrefix ANswback DNames TUrnaround IAndshake	On 200 Enter ON	l

Remote Workstation Answering Anyone Calling Its Number



The DP, DS, and AP commands default to the modem specified during setup.

SCENARIO 7: Remote Calls LAN at 300 bps - Crosstalk

Hayes 300 Calls Hayes 2400

The remote terminal using Crosstalk calls through a Hayes 300 to a LAN workstation using Crosstalk. The LANACS server is using port 1 of the RTIC card attached to a Hayes 2400 modem. The configuration file specifies a speed of 300 bps for this modem. The LAN workstation will answer anyone calling the service netname of "XTALK" by asking for the destination name (service) "Crosstalk".

PC Network Configuration: LCS.CFG

```
type=status
disp
        refresh_rate=30
       new_page=-19-1bH
       type=console
con
       keyboard=unlocked
connect disp to con
*INCOMING
XTALKS1
        type=NETBIOS orientation=ORIGINATE
        protocol=ACSI nametype=UNIQUE
H2400
                      orientation=ANSWER
        type=RTICM
        adapter=0
                      port=1
                      parity=ODD data_bits=7
        speed=300
connect H2400 to XTALKS1
********* Request Manager *********
REQM1
       type=REQMGR
  service=Crosstalk service_netname=XTALK
```

Remote Workstation Calls the LAN at 300 bps

Crosstalk XVI Status Screen Off Line								
	NAme NUmber	86670			LOaded A:CA CApture Off	LL-LCS.XTK		
		Communications	parameters		Filter s	ettings —		
1	Speed DAta POrt	7 STop 1	EMulate		DEbug Off TAbex Off INfilter On	LFauto Off BLankex Off OUtfiltr On		
[Key setti	ings ———		SEnd contr	ol settings—		
			COmmand ETX BReak End		SEnd control settings CWait None LWait None			
ſ	· · · · · · · · · · · · · · · · · ·		Miscellaneo	us parame	eters			
1	DRive DPrefi PRinte PMode EPath VIdeo		ACcept lts) DSuffix UConly BKsize RDials FLow LBreak	(defau] Off 1				

Command?

The DP, DS, and AP parameters default to the modem type defined during setup.

LAN Workstation Answering Anyone Calling For "XTALK"

		— Crossta	alk XVI Stat	us Screen —	Off Line
NAme AN NUmber	NSWER-LCS-IN	COMING		LOaded C CApture (: ANS-LCS.XTK Off
Co	ommunication	s paramete	ers —	Filte:	r settings ———
Speed 30	00 PArity O	dd DUple	ex Half	DEbug Of:	f LFauto Off
DAta 7	STop 1		ate None	•	f BLankex Off
POrt 1	-	MOde	Answer	INfilter On	OUtfiltr On
ATten F SWitch F	Esc Home	COmmand BReak	ETX (¬C) End	CWait None	
$^{D}Rive$	C:	ACcept	Everything	PWord	1
DPrefix		DSuffix	-	APrefix	XTALK
PRinter		${\tt UConly}$	Off	ANswback	On
PMode	2 (DOS)	BKsize	1	DNames	200
EPath	701.01	RDials	10	TUrnaround	
VIdeo	EGA/Mono	FLow LBreak	¬S/¬Q 200	HAndshake	ON

SCENARIO 8: LAN Calls Remote at 300 bps - Crosstalk

Hayes 2400 Calls Hayes 300

A LAN terminal using Crosstalk calls a remote workstation using Crosstalk. The LANACS server is using port 1 of the RTIC card attached to a Hayes 2400 modem. The configuration file sets this modem to 300 bps. The remote workstation is using a Hayes 300 bps modem. The LANACS request manager will look under the netname, "MODEMS" supplied by the Crosstalk user. The Crosstalk target, "T:XTALK", will be found by the request manager. It supplies the proper phone number and points to the pool to be used, "TOREMOTES", for devices to be connected to the LAN session, "XTALKS1".

PC Network Configuration: LCS.CFG

```
disp
        type=status
        refresh_rate=30
        new_page=-19-1bH
        type=console
        keyboard=unlocked
connect disp to con
*OUTGOING
XTALKS1
        type=NETBIOS orientation=ANSWER
        protocol=ACSI nametype=UNIQUE
H2400
         type=RTICM
                      orientation=ORIGINATE
         adapter=0
                      port=1
connect XTALKS1 to H2400
******** Request Manager *********
REQM1
        type=REQMGR
 pool=TOREMOTES devices=H2400
     netname=MODEMS
                      nametype=UNIQUE
                      pool=TOREMOTES
                                        phone=86659
     target=XTALK
     speed=300
                                        data_bits=7
                      parity=ODD
```

A LAN Workstation Calls the Remote Workstation at 300 bps

Crosstalk XVI Status Screen —							Off L	ine			
NAme NUmber		ALL-REN LK	ЮТЕ						d C:CAl re Off	LL-LCS.XT	K
	Commu	nicatio	ons	parameters				— Fi	lter s	ettings —	•]
Speed DAta POrt		PArity STop		DUplex EMulate MOde			TAbe	x	Off Off On		
ATten	Esc	- Key se		ngs ————— COmmand ETX	(¬C)		CWai		contro None	ol settin	gs—
SWitc	h Home	:		BReak End	-		LWai		None		
				Miscellaneo	ous par	ame	eters				
DRive				ACcept	Everyt	hir	ng	PWor			•
	ix MOD			DSuffix				APre			
	er Off			UConly	Off			ANsw		On	
PMode	•	DOS)		BKsize				DNam		200	
EPath				RDials					around		
VIdeo	EGA	/Mono		FLow	, .			HAnd	shake	ON	
				LBreak	200						

Remote Workstation Answering Anyone Calling Its Number

		XVI Statu	ıs Screen -		Off Li	ine	
NAme NUmber	ANSWER-LCS-INCO	DMING		LOaded CApture		-LCS.XTK	
	Communications	parameters		Filt	er set	tings —	
Speed DAta POrt	_	d DUplex EMulate MOde		•	Off B	Fauto BLankex OUtfiltr	Off Off On
<u> </u>	Key setti	ings ———		SEnd o	ontrol	setting	gs—
ATten SWitch	Esc n Home	COmmand ETY BReak End		,	one one		
		Miscellaneo	ous parame	eters			
	C: ix (Hayes defauler Off 2 (DOS) EGA/Mono	ACcept Its) DSuffix UConly BKsize RDials FLow LBreak	(defau Off 1 10	lts) APref ANswb DName TUrna	fix oack	(default On 200 Enter ON	ts)

 ${\tt Command?}$

The DP, DS, and AP parameters default to the modern type defined during setup.

SCENARIO 9: Remote Calls LAN at 300 bps - Crosstalk

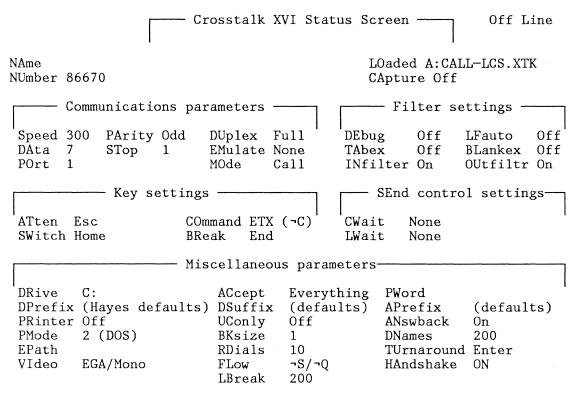
Hayes 300 Calls Hayes 300

The remote terminal using Crosstalk calls through a Hayes 300 modem to a LAN workstation using Crosstalk. The LANACS server is using port 1 of the RTIC card attached to a Hayes 300 modem. The LAN workstation will answer anyone calling the service netname of "XTALK" by asking for the destination name (service) "Crosstalk".

PC Network Configuration: LCS.CFG

```
disp
       type=status
       refresh_rate=30
       new_page=-19-1bH
       type=console
con
       keyboard=unlocked
connect disp to con
*INCOMING
XTALKS1 type=NETBIOS orientation=ORIGINATE
        protocol=ACSI nametype=UNIQUE
H300
                      orientation=ANSWER
        type=RTICM
        adapter=0
                      port=1
        speed=300
                      parity=ODD data_bits=7
connect H300 to XTALKS1
******** Request Manager *********
       type=REQMGR
REQM1
 service=Crosstalk service_netname=XTALK
```

Remote Workstation Calls the LAN at 300 bps



Command?

The DP, DS, and AP parameters default to the modem type defined during setup.

LAN Workstation Answering Anyone Calling For "XTALK"

Crosstalk XVI Status Screen Off Line						
NAme NUmber	ANSWER-LCS-IN	COMING		LOaded C: CApture (ANS-LCS.XTK	
	Communication	ns paramete	ers —	Filter	settings —	
Speed DAta POrt	300 PArity (7 STop 1		ex Half ate None Answer	DEbug Off TAbex Off INfilter On	f BLankex Off	
	Key set	tings —		SEnd con	ntrol settings—	
ATten SWitch	Esc n Home	COmmand BReak	ETX (¬C) End	CWait None	=	
		— Miscella	aneous param	eters		
DRive DPref: PRinte PMode EPath VIdeo	er Off	ACcept DSuffix UConly BKsize RDials FLow LBreak	Everything Off 1 10 ¬S/¬Q 200	PWord APrefix ANswback DNames TUrnaround HAndshake	XTALK On 200 Enter ON	

SCENARIO 10: LAN Calls Remote at 300 bps - Crosstalk

Hayes 300 Calls Hayes 300

A LAN terminal using Crosstalk calls a remote workstation using Crosstalk. The LANACS server is using port 1 of the RTIC card attached to a HAYES 300 modem. The remote workstation is also using a Hayes 300 modem. The LANACS request manager will look under the netname, "MODEMS", supplied by the Crosstalk user. The Crosstalk target, "T:XTALK", will be found by the request manager. It supplies the proper phone number and points to the pool to be used, "TOREMOTES", for devices to be connected to the LAN session, "XTALKS1".

PC Network Configuration: LCS.CFG

```
disp
        type=status
        refresh_rate=30
        new_page=-19-1bH
con
        type=console
        keyboard=unlocked
connect disp to con
*OUTGOING
XTALKS1
        type=NETBIOS orientation=ANSWER
         protocol=ACSI nametype=UNIQUE
H300
         type=RTICM orientation=ORIGINATE
                      port=1
         adapter=0
                                  mode=FIXED
         asserted_leads=DSR
connect XTALKS1 to H300
******** Request Manager *********
REQM1
        type=REQMGR
 pool=TOREMOTES devices=H300
      netname=MODEMS
                      nametype=UNIQUE
      target=XTALK
                      pool=TOREMOTES
                                        phone=86659
      speed=300
                      parity=ODD
                                        data_bits=7
```

A LAN Workstation Calls the Remote Workstation at 300 bps

		— Crosstalk	XVI Stati	us Screen —	Off Line
NAme NUmber	LCS-CALL-REMOTE XTALK	ГЕ		LOaded C:CA CApture Off	LL-LCS.XTK
	Communications	s parameters		Filter se	ettings ——
Speed DAta POrt	7 STop 1	dd DUplex EMulate MOde		DEbug Off TAbex Off INfilter On	LFauto Off BLankex Off OUtfiltr On
	Key set	tings ———		SEnd contro	ol settings—
ATten SWitch	Esc n Home	COmmand ET BReak En	• •	CWait None LWait None	ı
		- Miscellane	ous param	eters	
	ix MODEMS er Off 2 (DOS)	ACcept DSuffix UConly BKsize RDials FLow LBreak	Everythi: Off 1 10 ¬S/¬Q 200	ng PWord APrefix ANswback DNames TUrnaround HAndshake	On 200 Enter ON

Remote Workstation Answering Anyone Calling Its Number

	Crosstalk XVI Status Screen Off Line							
NAme NUmber	ANSWER-LCS-INCO	MING			ded A:ANS oture Off	-LCS.XTK		
	Communications	parameters -			Filter se	ttings —		
Speed DAta POrt	•	EMulate N	lalf lone answer	DEbug TAbex INfilt	Off	LFauto Off BLankex Off OUtfiltr On		
	Key setti	ngs ———		SE	End contro	l settings—		
ATten SWitch	Esc Home	COmmand ETX BReak End	(¬C)	CWait LWait	None None	ı		
		Miscellaneou	ıs parame	eters-				
	C: ix (Hayes defauler Off 2 (DOS) EGA/Mono	ACcept Its) DSuffix UConly BKsize RDials FLow LBreak	0ff 1 10		PWord APrefix ANswback DNames TUrnaroun HAndshake			

Command?

The DP, DS, and AP commands default to the modem type defined during setup.

SCENARIO 11: Remote Calls Remote via LAN at 300 bps - Crosstalk

Hayes 300 Calls Hayes 300, Then Hayes 1200 Calls IBM Internal 1200

A remote Crosstalk terminal calls through the LAN to another remote. The calling remote using a Hayes 300 calls the LANACS server using port 7 of the RTIC card attached to a Hayes 300. The LANACS server using port 1 of the RTIC card attached to a Hayes 1200 calls out at 300 bps to a remote workstation using an IBM Internal 1200. When the calling station dials into port 7, it will ask for destination "Crosstalk" which is the service. The call will be directed to the target "XTALK" under the service netname "MODEMS", then to pool "TOREMOTES" which will use Modem1 attached to port 1 to dial the destination workstation.

```
disp
        type=status
        refresh_rate=30
        new_page=-19-1bH
        type=console
con
        keyboard=unlocked
connect disp to con
*OUTGOING
XTALKS1
        type=NETBIOS orientation=ANSWER
         protocol=ACSI nametype=UNIQUE
MODEM1
                      orientation=ORIGINATE
         type=RTICM
                       port=1
         adapter=0
         asserted_leads=DSR
connect XTALKS1 to MODEM1
*INCOMING
XTALKS7
         type=NETBIOS orientation=ORIGINATE
         protocol=ACSI nametype=UNIQUE
MODEM7
         type=RTICM
                      orientation=ANSWER
         adapter=0
                      port=7
                       parity=ODD data_bits=7
         speed=300
connect MODEM7 to XTALKS7
******** Request Manager *********
REQM1
        type=REQMGR
  pool=TOREMOTES devices=MODEM1
      netname=MODEMS
                       nametype=UNIQUE
      target=XTALK
                       pool=TOREMOTES
                                         phone=86659
      speed=300
                       parity=ODD
                                         data_bits=7
  {\tt service=Crosstalk\ service\_netname=MODEMS\ target=XTALK}
```

Remote Workstation Calls LAN at 300 bps

Cr	osstalk XV	/I Status Sci	reen —	Off Line			
NAme LCS-CALL-REMOTE NUmber 86670)aded C:CALL Apture Off	-LCS.XTK			
Communications par	ameters —		- Filter set	tings —			
DAta 7 STop 1	DUplex Fu EMulate No MOde Ca	one TAbez	off B	Fauto Off Lankex Off Utfiltr On			
Key settings ————————————————————————————————————							
ATten Esc COm SWitch Home BRe	mand ETX (ak End	(-C) CWait LWait		I			
Mis	cellaneous	s parameters-					
DRive C: DPrefix (Hayes defaults) PRinter Off PMode 2 (DOS) EPath VIdeo EGA/Mono	ACcept DSuffix UConly BKsize RDials FLow LBreak	Everything (defaults) Off 1 10 ¬S/¬Q 200	PWord APrefix(de ANswback DNames TUrnaround HAndshake	On 200 Enter			

Remote Workstation Answering at 300 bps

Crosstalk XVI Status Screen						Off Line
NAme NUmber	ANSWER-LCS-INCO	MING		LOaded CApture		LCS.XTK
	Communications	parameters -		—— Filt	er sett	tings —
Speed DAta POrt	•	EMulate N			off Bl	Fauto Off Lankex Off Utfiltr On
	Key setti	ngs ———		SEnd o	control	settings—
ATten SWitc	Esc h Home	COmmand ETX BReak End	(¬C)	 CWait None LWait None		
		Miscellaneou	ıs parame	ters		
	ix (IBM defaults er Off 2 (DOS)	ACcept DSuffix UConly BKsize RDials FLow LBreak	Everyth (defaul Off 1 10 ¬S/¬Q 200	ts) APre ANsw DNam TUrn	efix back	(defaults) On 200 Enter ON

The DP, DS, and AP commands default to the modem type defined during setup.

SCENARIO 12: PCNW Calls Remote at 300, TR Calls PCNW at 1200 - Crosstalk

Hayes 300 Calls Hayes 300 and IBM Internal 1200 Calls Hayes 1200

PHYSICAL NETWORK CONFIGURATION

The network consists of three PCs on a PC Network, two PCs on a Token Ring, and one remote PC.

THE PC NETWORK

- Workstation #1 is an XT running Crosstalk on the PC Network.
- Workstation #2 is an AT® running Crosstalk on the PC Network.
- A PC XTTM is dedicated as the LAN Asynchronous Connection Server on the PC Network. It is using ports 1 and 7 of an RTIC card. Port 1 is connected to a 1200 bps external modem. Port 7 is connected to a 300 bps external modem.

THE TR NETWORK

- TR #1 is a PC XT workstation running Crosstalk on the Token Ring.
- An IBM Personal System/2TM, Model 50, is dedicated as the LAN Asynchronous Connection Server on the Token Ring. It uses a 1200 bps internal modem on COM2.

THE REMOTE WORKSTATION

• A PC is used as a remote workstation running Crosstalk. It uses a 1200 bps internal modem on COM1.

CAPABILITIES

The configuration files and Crosstalk setups that follow allow the following:

- Workstation #1 on the PC Network can call the remote workstation at 300 bps.
- Workstation #2 on the PC Network can answer any caller looking for a service on the LAN with the name, "XTALK" (Crosstalk).
- TR #1 workstation on the Token Ring can call the PC Network and ask for a service called "XTALK".
- The remote workstation is in answer mode to anyone that calls for Crosstalk.

```
disp
       type=status
       refresh_rate=30
       new_page=-19-1bH
con
       type=console
       keyboard=unlocked
connect disp to con
*INCOMING
XTALKS1 type=NETBIOS orientation=ORIGINATE
        protocol=ACSI nametype=UNIQUE
MODEM1
        type=RTICM orientation=ANSWER
        adapter=0 port=1
        speed=AUTOBAUD parity=ODD data_bits=7
connect MODEM1 to XTALKS1
*OUTGOING
XTALKS7 type=NETBIOS orientation=ANSWER
        protocol=ACSI nametype=UNIQUE
MODEM7
        type=RTICM orientation=ORIGINATE
        adapter=0 port=7
        asserted leads=DSR
connect XTALKS7 to MODEM7
******** Request Manager ********
REQM1
       type=REQMGR
  pool=TOREMOTES devices=MODEM7
       netname=MODEMS nametype=UNIQUE
       target=XTALK pool=TOREMOTES phone=86659
       speed=300
                    parity=ODD
                                   data_bits=7
  service=Crosstalk service_netname=XTALK
```

TR Network Configuration: LCS.CFG

```
disp
       type=status
       refresh_rate=30
       new_page=-19-1bH
con
       type=console
       keyboard=unlocked
connect disp to con
*OUTGOING
XTALKS2
       type=NETBIOS orientation=ANSWER
        protocol=ACSI nametype=UNIQUE
                      orientation=ORIGINATE
MODEM2
        type=COM
        adapter=COM2
        asserted_leads=DSR
connect XTALKS2 to MODEM2
******** Request Manager *********
REQM1 type=REQMGR
 pool=TOREMOTES devices=MODEM2
      netname=MODEMS
                       nametype=UNIQUE
      target=XTALK pool=TOREMOTES phone=86670
      speed=1200
                  parity=odd
                                   data_bits=7
 service=Crosstalk service_netname=XTALK
                                             target=XTALKS
TRACE DATA+INTERNALS+STATUS+EVENTS OF MODEM1 TO TRACE.FIL
write log to log.fil
write errors to error.fil
```

The trace and write statements are included to show samples of both functions.

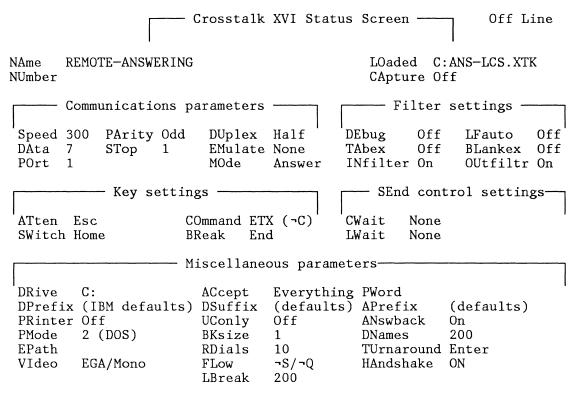
Workstation #1 Calls Remote at 300 bps

	Γ	Crosst	alk XVI Stat	us Screen —	Off Line
NAme NUmber	LCS-CALL-REM	IOTE		LOaded C CApture (:CALL-LCS.XTK Off
	Communication	ons paramet	ers —	Filte:	r settings ———
Speed DAta POrt	•		ate None	DEbug Of: TAbex Of: INfilter On	f BLankex Off
Key settings —				SEnd con	ntrol settings—
ATten SWitch	Esc n Home	COmmand BReak	ETX (¬C) End	CWait None LWait None	_
		— Miscell	aneous param	neters	
	C: ix MODEMS er Off	ACcept DSuffix UConly	Everything Off	PWord APrefix ANswback	On
PMode EPath	2 (DOS)	BKsize RDials	1 10	DNames TUrnaround	200 Enter
VIdeo	EGA/Mono	FLow LBreak	¬S/¬Q 200	HAndshake	ON

Workstation #2 Answering Anyone Calling for "XTALK"

	Crossta	alk XVI Statu	s Screen —	Off Line
NAme ANSWER- NUmber	LCS-INCOMING		LOaded C: CApture (ANS-LCS.XTK
Communi	cations paramete	ers —	Filter	settings —
Speed 1200 PA DAta 7 ST POrt 1		ex Half ' ' ate None Answer	DEbug Off TAbex Off INfilter On	BLankex Off
K	ey settings —		SEnd cor	ntrol settings—
ATten Esc SWitch Home	COmmand BReak	ETX (¬C)	CWait None LWait None	
	Miscella	aneous parame	eters	
DRive C: DPrefix	ACcept DSuffix	Everything	PWord APrefix	XTALK
PRinter Off	UConly	Off	ANswback	On
PMode 2 (DO	-	1	DNames	200
EPath VIdeo EGA/M	RDials ono FLow LBreak	10 ¬S/¬Q 200	TUrnaround HAndshake	ON

Remote Workstation Answering Anyone Calling Its Number At 300 bps



Command?

The (IBM defaults) in the DP, DS, and AP parameters are set automatically when setup is used to define the modern type.

Workstation TR #1 Calls the PC Network at 1200 bps

		— Crossta	alk XVI Statı	ıs Screen —	Off Line		
NAme NUmber	LCS-CALL-REMOTE XTALK	ТЕ		LOaded C:CALL-LCS.XTK CApture Off			
<u> </u>	Communication	s paramet	ers —	Filter	settings ——		
Speed DAta POrt	1200 PArity 0 7 STop 1 1		ex Full ate None Call	DEbug Off TAbex Off INfilter On	f BLankex Off		
	Key set	tings —		SEnd control settings—			
ATten SWitcl	Esc n Home	COmmand BReak	ETX (¬C) End	 CWait None LWait None			
		- Miscell	aneous parame	eters-	1		
	C: ix MODEMS er Off 2 (DOS) EGA/Mono	ACcept DSuffix UConly BKsize RDials FLow LBreak	Everything Off 1 10 ¬S/¬Q 200	PWord APrefix ANswback DNames TUrnaround HAndshake	On 200 Enter ON		

SCENARIO 13: Direct Attach 3161 Calls Remote or LAN - Crosstalk

As soon as the 3161 is connected, it is asked for destination. XTALK will connect it through the service_netname, MODEMS, and the target, XTALKREM, to the remote. Crosstalk will connect through XTALK to anyone on the LAN with a Dial Suffix (DS) of XTALK. The 3161 is connected to port 4 through a null modem.

3161 Setup

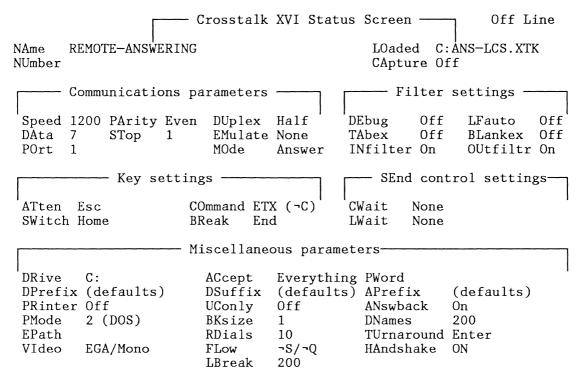
Machine mode	IBM 3161		
Operating mode	Echo		
Interface Line Control Line Speed (bps) Parity Turnaround Character Stop Bit Word Length (bits) Response Delay (ms) Break Signal (ms)	Main Port RS-232 C PRTS 1200 Even CR 1 7 100		

Select the following parameters:

```
disp
       type=status
       refresh_rate=30
       new_page=-19-1bH
       type=console
con
       keyboard=unlocked
connect disp to con

★INCOMING
XTALKS1
        type=NETBIOS orientation=ORIGINATE
        protocol=ACSI nametype=UNIQUE
MODEM1
        type=RTICM orientation=ANSWER
        adapter=0 port=1
        speed=AUTOBAUD parity=ODD data_bits=7
connect MODEM1 to XTALKS1
XTALKS4
        type=NETBIOS orientation=ORIGINATE
        protocol=ACSI nametype=UNIQUE
3161
        type=RTICM orientation=ANSWER
        adapter=0 port=4
        speed=1200 parity=ODD data_bits=7
        asserted_leads=DSR
        3161 to XTALKS4
connect
*OUTGOING
XTALKS7
        type=NETBIOS orientation=ANSWER
        protocol=ACSI nametype=UNIQUE
MODEM7
        type=RTICM orientation=ORIGINATE
         adapter=0 port=7
        asserted_leads=DSR
connect XTALKS7 to MODEM7
******** Request Manager *********
REQM1
       type=REQMGR
 pool=TOREMOTES devices=MODEM7
      netname=MODEMS
                       nametype=UNIQUE
       target=XTALK pool=TOREMOTES phone=86659
       speed=300
                    parity=ODD
                                    data_bits=7
  service=Crosstalk service_netname=XTALK
  service=XTALK
                   service_netname=MODEMS target=XTALKREM
```

Remote Workstation Answering Anyone Calling Its Number At 1200 bps



The DP, DS, and AP parameters default to the modern type defined during setup.

SCENARIO 14: LAN Calls Remote at 1200 bps - YTERM

Hayes 1200 Calls IBM Internal 1200

A Token Ring Network workstation brings up YTERM and calls through LANACS to a remote workstation using Crosstalk. The LANACS server is using COM2 attached to a Hayes 1200 modem.

Token Ring Network Configuration: LCS.CFG

```
disp
        type=status
        refresh_rate=30
        new_page=-19-1bH
con
        type=console
        keyboard=unlocked
connect disp to con
*OUTGOING
XTALKS2 type=NETBIOS orientation=ANSWER
         protocol=EBI netname=REMOTE
H1200
                       orientation=ORIGINATE
         type=COM
         adapter=COM2
         speed=1200
                      parity=NONE data_bits=8
         asserted_leads=DSR
connect XTALKS2 to H1200
```

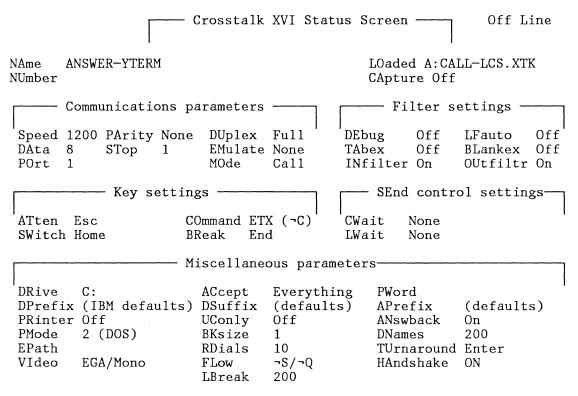
YTERM Installation

- Do not use EBIOS.SYS in CONFIG.SYS.
- After installing YTERM software in a subdirectory, copy XBIOS.COM into the subdirectory from the LANACS diskette.

YTERM Instructions

- 1. After LANACS is running on the dedicated server, in order to begin the YTERM session, change to your YTERM subdirectory and enter "XBIOS".
- 2. Enter "Redirect COM1 to remote". (Remote is the netname in the session definition portion of LCS.CFG). Output to COM1 will be redirected to the session which will be connected to Modem2.
- 3. To bring up YTERM, enter "T O" if using 7 bit odd parity or "T M" if using 8 bit no parity. Other YTERM defaults for this command will work.
- 4. Depress the CAPS LOCK key because YTERM has put the keyboard in lower case and you must converse with the modem in upper case.
- 5. You must be familiar with the command language of your modem. At this point the connection was made between applications. In this example, the following commands were issued to the Hayes 1200 Modem.
 - "ATE1" (echoes what is keyed in).
 - "ATV1" (responds in words instead of code).
 - c. "ATDT" followed by the phone number.

Remote Workstation Answering

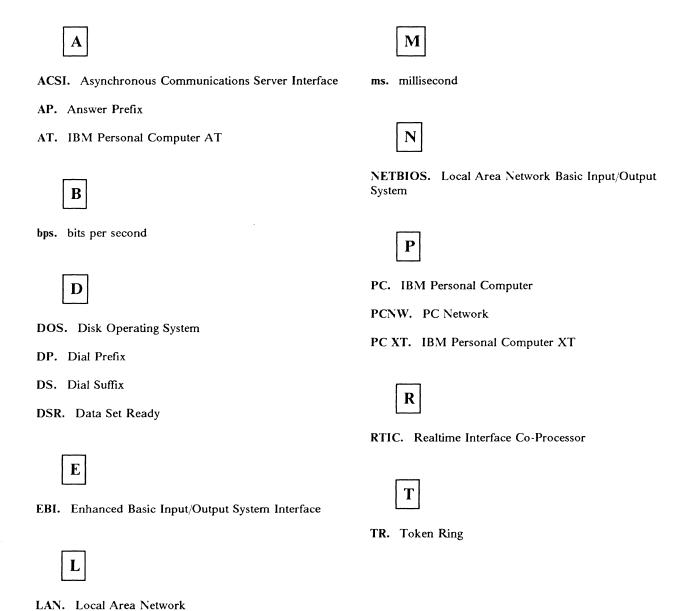


The DP, DS, and AP parameters default to the modern type defined during setup.

Glossary

LANACS. Local Area Network Asynchronous

Connection Server



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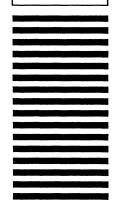
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