GBPPR 'Zine – Issue #2



Welcome to Green Bay Professional Packet Radio's (www.gbppr.org) crappy magazine!

Lots of telecom stuff in this issue. Some old and some new. No fucking red boxing.

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Table of Contents

- Article 1 : DMS-100 Residential Line CLASS Office Data
 Enable CLASS features on your CO. Don't forget to enable billing.
- Article 2 : WI Bell Official Telephone Directory
 Scans from an old Wisconsin Bell/Ameritech internal OTD.
- Article 3 : DMS-100 Automatic Dial Back ◊ You mean it's not in color or 3D?
- Article 4 : LoJack III Theory of Operation
 Some LoJack specifications and details.
- ♦ Article 5 : LoJack Jammer
 - ◊ Theoretical schematic for a device to disable LoJack tracking.
- Article 6 : AT&T Operations Support Practice Index
 See, you could ordered those COSMOS manuals instead of stealing them.
- ♦ Bonus
 - ◊ Suspected Toll Fraud Deterrent Action Report.
- ♦ The End

◊ Editorial and Rants.

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RESOFC

Table Name : Residential Line CLASS Office Data

Functional Description of Table RESOFC

Table RESOFC contains data pertaining to Custom Local Area Signaling Services (CLASS) features. CLASS features are public network features targeted for the residential market.

For each CLASS feature, table RESOFC controls whether the feature is enabled or disabled for the whole office. If disabled, no CLASS line can use that feature even if assigned. Table RESOFC also controls the attributes that are associated with each feature.

The CLASS features that are supported are shown below.

*	Automatic Call Back (ACB)	*	Anonymous Call Rejection (ACRJ)
*	Automatic Recall (AR)	*	Call Logging (CALLOG)
*	CLASS Message Waiting Indicator (CMWI)	*	Calling Name Delivery Blocking (CNAB)
*	Calling Name Delivery (CNAMD)	*	Calling Number Delivery (CND)
*	Calling Number Delivery Blocking (CNDB)	*	Customer Originated Trace (COT)
*	Distinctive Ringing/Call Waiting (DRCW)	*	Calling Number Delivery Dialable Number (DDN)
*	Selective Call Acceptance (SCA)	*	Selective Call Forwarding (SCF)
*	Selective Call Rejection (SCRJ)	*	Spontaneous Call Waiting Identification (SCWID)
*	Spontaneous Call Waiting Identification	with	Disposition (DSCWID)

For more information on these features, refer to the Feature Description Manual, 297–1001–801.

A default tuple is added to this table when the software package implementing the CLASS feature is initialized in the office. Tuples cannot be added by the customers. Existing tuples can only be modified but they cannot be deleted.

Datafill Sequence

The following tables must be datafilled before table RESOFC: CLLI, ANNS, ANNMEMS, DRAMTRK

The call logging entry in table RESOFC is added automatically.

If the operating company wishes to have repeat announcements for AR two-level activation, fields BADIGITS and TIMEOUT must be set to a non-zero value.

Table Size

Memory for this table is statically allocated. This table cannot be extended.

The tuple size has increased to accomodate a maximum of four new announcements identifiers. The internal table storing this information is increased in size by nine protected data words.

Customer Data Schema Reference Manual, volume 6 of 8 BCS36 and up

Field Descriptions

Field names, subfield names, and valid data ranges for table RESOFC are described below.

Field Descriptions for Table RESOFC		
Field or Subfield	Entry	Explanation
FEATNAME	ACB, ACRJ, AR, CALLOG, CMWI, CNAB, CNAMD, CNDB, CND, COT, DDN, DRCW, DSCWID, SCA, SCF, SCRJ or SCWID	<pre>Class Feature Name This field is the key to the table. Enter a CLAS feature as described below:</pre>
ENABLED	Y or N	Enabled Enter Y (yes) to specify that the feature is enabled within the office. Enter N (no) to indicate the feature is disabled. Note: The DSCWID feature is only available if field ENABLED is set to Y.

Field or Subfield	Entry	Explanation
ACCESS	SUBSCR or UNIVER	Feature Access This field determines who can access the feature. Enter SUBSCR for subscribers only. Enter UNIVER for all residential (RES) line access to the feature.
		Note 1: The DSCWID feature is only available if field ACCESS is set to SUBSCR.
		Note 2: The CNAB feature is only available if field ACCESS is set to UNIVER.
		Note 3: For feature ACB and AR, if the entry in field ACCESS is changed, the entire datafill for the feature must be re-entered.
FEATDATA	see subfield	Feature Data This field consists of subfield FEATNAME.
FEATNAME	ACB, ACRJ, AR, CALLOG, CMWI, CNAB, CNAMD, CNDB, CND, COT, DDN, DRCW, DSCWID, SCA, SCF, SCRJ or SCWID	Class Feature Name Enter a CLASS feature and datafill its refinements as described below: Enter ACB and datafill refinements on page 5. Enter ACRJ and datafill refinements on page 8. Enter AR and datafill refinements on page 8. Enter CALLOG and datafill refinements on page 13. Enter CMWI and datafill refinements on page 14. Enter CNAB and datafill refinements on page 15. Enter COT and datafill refinements on page 17. Enter CNAMD. No refinements require datafill. Enter CNDB and datafill refinements on page 16. Enter CND and datafill refinements on page 15. Enter DDN. No refinements require datafill. Enter DDN. No refinements require datafill. Enter DCW and datafill refinements on page 23. Enter SCA and datafill refinements on page 23. Enter SCF and datafill refinements on page 23. Enter SCRJ and datafill refinements on page 23. Enter SCRJ and datafill refinements on page 23. Enter SCRJ and datafill refinements on page 23.

-end-

FEATNAME = ACB

If the entry in field FEATNAME is ACB, datafill refinements BILLING_OPTION, T2, T5, T6, T10, TSCAN, N, RINGCYCL, RINGAPPL, TERMSCAN, COINLINE, HUNTLINE, PBXLINE and FLASHACT as described below, then go to field FNALANN.

Field or			
Subfield	Entry	Explanation	
BILLING_OPTION (BCS35-)	NOAMA or AMA	Billing Option If the entry in the field FEATNAME is ACB and the entry in field ACCESS is UNIVER, datafill this refinement. Enter AMA (Automatic Message Accounting) to enable billing. Otherwise, enter NOAMA.	
T2	3 to 12	Time 2 If the entry in field FEATNAME is ACB, datafill this refinement. Enter the length of time (in minutes) that the originating switch waits between stopping recall ringing and sending out a message request to reactivate the queue positio	
		The default is 5.	
т5	2 to 10	Time 5 If the entry in field FEATNAME is ACB, datafill this refinement. Enter the length of time (in seconds) that the originating switch allows for a response from the terminating switch.	
		The default is 3.	
т6	5 to 35	Time 6 If the entry in field FEATNAME is ACB, datafill this refinement. Enter the length of time (in minutes) that the originating switch scans or waits for a free notification from the terminatin switch.	
		The default is 30.	

Field or		
Subfield	Entry	Explanation
T10	60 to 180	Time 10 If the entry in field FEATNAME is ACB, datafill this refinement. Enter the length of time (in minutes) for the queue sanity timer for both the originating and terminating switches. The default is 180.
TSCAN	3 to 120	Time Scanning If the entry in field FEATNAME is ACB, datafill this refinement. Enter the length of time (in seconds) between busy/idle queries when the originator is performing originating scanning.
		Note: Tll in the terminating node is set equal to refinement TSCAN + 5 seconds.
		The default is 120.
N	0 to 10	N If the entry in field FEATNAME is ACB, datafill this refinement. Enter the tolerance timer for aligning values of T6 timer and queue entry timer (T7) at the terminating switch. If the entry in refinement T6 is greater than the entry in refinement N when the originator receives a service timeout message from the terminating switch, a message is sent to reset T7 to use what is left of T6.
		The default is 5.
RINGCYCL	2 to 7	<i>Ring Cycle</i> If the entry in field FEATNAME is ACB, datafill this refinement. Enter the number of 6 second rir cycles that recall ringing is given.
		Note: T8 is set equal to field RINGCYCL x 6 + 5 seconds.
		The default is 5.

Field or Subfield	Entry	Explanation
RINGAPPL	1 to 12	<i>Ring Apply</i> If the entry in field FEATNAME is ACB, datafill this refinement. Enter the number of times unanswered recall ringing is given to a calling party.
		The default is 2.
TERMSCAN	Y or N	Terminating Scan If the entry in field FEATNAME is ACB, datafill this refinement. Enter Y if the originating switch requests terminating scan. Otherwise, enter N if the switch never requests a terminating scan.
		The default is Y.
COINLINE	ACCEPT or DENY	Coin Line If the entry in field FEATNAME is ACB, datafill this refinement. Enter whether the originating switch accepts or denies an ACB for a return line type of coin line and directory number (DN) match of match.
		The default is DENY.
HUNTLINE	ACCEPT or DENY	Hunt Line If the entry in field FEATNAME is ACB, datafill this refinement. Enter whether the originating switch accepts or denies an ACB for a return line type of hunt line and DN match of match or no match
		The default is DENY.
PBXLINE	ACCEPT or DENY	Private Branch Exchange Line If the entry in field FEATNAME is ACB, datafill this refinement. Enter whether the originating switch accepts or denies an ACB for a return type of Private Branch Exchange (PBX) line and DN match of no match.
		The default is DENY.

Field or Subfield	Entry	Explanation
FLASHACT	Y or N	Flash Activation If the entry in field FEATNAME is ACB, datafill this refinement. Enter Y to specify that the Residential Enhances Services (RES) line with feature ACB can flash after receiving a busy tone and dial the respective activation code. Otherwise, enter N.
		The default is Y.

-end-

FEATNAME = ACRJ

If the entry in field FEATNAME is ACRJ, datafill refinement ACRJ_ANSWRSUP as described below, then go to field FNALANN.

Conditional Datafill for Table RESOFC		
Field or Subfield	Entry	Explanation
ACRJ_ANSWRSUP	Y or N	ACRJ Answer Supervision If the entry in field FEATNAME is ACRJ, datafill this refinement. Enter Y if answer supervision is required. Otherwise, enter N.

-end-

FEATNAME = AR

If the entry in field FEATNAME is AR, datafill refinements BILLING_OPTION, T2, T5, T6, T10, TSCAN, RINGCYCL, RINGAPPL, TERMSCAN, COINLINE, HUNTLINE, PBXLINE, FLASHACT and ACTLEVEL as described below, then go to field FNALANN.

_____ Conditional Datafill for Table RESOFC Field or Subfield Entry Explanation _____ BILLING_OPTION NOAMA Billing Option (BCS35-) or If the entry in the field FEATNAME is AR and the AMA entry in field ACCESS is UNIVER, datafill this refinement. Enter AMA (Automatic Message Accounting) to enable billing. Otherwise, enter NOAMA. _____ _____ _____

Field or Subfield	Entry	Explanation
т2	3 to 12	Time 2 If the entry in field FEATNAME is AR, datafill this refinement. Enter the length of time (in minutes) that the originating switch waits between stopping recall ringing and sending out a message request to reactivate the queue positio The default is 3.
 T5	2 to 10	Time 5
		If the entry in field FEATNAME is AR, datafill this refinement. Enter the length of time (in seconds) that the originating switch allows for a response from the terminating switch.
		The default is 3.
тб	5 to 35	Time 6 If the entry in field FEATNAME is AR, datafill this refinement. Enter the length of time (in minutes) that the originating switch scans or waits for a free notification from the terminatin switch.
		The default is 30.
 T10	60 to 180	<i>Time 10</i> If the entry in field FEATNAME is AR, datafill this refinement. Enter the length of time (in minutes) for the queue sanity timer for both the originating and terminating switches.
		The default is 180.

Field or Subfield	Entry	Explanation
TSCAN	3 to 120	Time Scanning If the entry in field FEATNAME is AR, datafill this refinement. Enter the length of time (in seconds) between busy/idle queries when the originator is performing originating scanning.
		Note: Tll in the terminating node is set with a value equal to field TSCAN + 5 seconds.
		The default is 120.
N	0 to 10	N If the entry in field FEATNAME is AR, datafill this refinement. Enter the tolerance timer for aligning values of T6 timer and queue entry timer (T7) at the terminating switch. If the entry in refinement T6 is greater than the entry in refinement N when the originator receives a service timeout message from the terminating switch, a message is sent to reset T7 to use what is left of T6.
		The default is 5.
RINGCYCL	2 to 7	<i>Ring Cycle</i> If the entry in field FEATNAME is AR, datafill this refinement. Enter the number of 6 second rin cycles that recall ringing is given. Note: T8 is set equal to field RINGCYCL x 6 +
		5 seconds.
		The default is 5.
RINGAPPL	1 to 12	<i>Ring Apply</i> If the entry in field FEATNAME is AR, datafill this refinement. Enter the number of times unanswered recall ringing is given to a calling party.
		The default is 5.

Field or Subfield	Entry	Explanation
TERMSCAN	Y or N	Terminating Scan If the entry in field FEATNAME is AR, datafill this refinement. Enter Y if the originating switch requests terminating scan. Otherwise, enter N if the switch never requests a terminating scan.
		The default is Y.
COINLINE	ACCEPT or DENY	Coin Line If the entry in field FEATNAME is AR, datafill this refinement. Enter whether the originating switch accepts or denies an AR for a return line type of coin line and directory number (DN) match of match.
		The default is DENY.
HUNTLINE	ACCEPT or DENY	Hunt Line If the entry in field FEATNAME is AR, datafill this refinement. Enter whether the originating switch accepts or denies an AR for a return line type of hunt line and DN match of match or no match
		The default is DENY.
PBXLINE	ACCEPT or DENY	Private Branch Exchange Line If the entry in field FEATNAME is AR, datafill this refinement. Enter whether the originating switch accepts or denies an AR for a return type of Private Branch Exchange (PBX) line and DN match of no match.
		The default is DENY.

Field or		
Subfield	Entry	Explanation
FLASHACT	Y or N	Flash Activation If the entry in field FEATNAME is AR, datafill this refinement. Enter Y to specify that the Residential Enhances Services (RES) line with feature AR can flash after receiving a busy tone and dial the respective activation code. Otherwise, enter N. For BCS36 and up, this field has no affect on the table.
		Note: Changes to this field take place immediately.
		The default is Y.
ACTLEVEL	ONELEVEL or TWOLEVEL	Activation Level If the entry in field FEATNAME is AR, datafill this refinement. Enter ONELEVEL is the subscriber can access the feature by dialing the feature access code. Enter TWOLEVEL if the subscriber is prompted to dial 1 after dialing the feature access code and datafill refinements BADIGITS and TIMEOUT.
		The default is ONELEVEL.
BADIGITS	0 to 7	Bad Digits If the entry in field FEATNAME is AR, and the entry in refinement ACTLEVEL is TWOLEVEL, datafill this refinement. This field determines the number of ti that a subscriber may enter the wrong input during level activation. If this number is exceeded then call is routed to NACK (nil-acknowledgement) treatm
TIMEOUT	0 to 7	Time Out If the entry in field FEATNAME is AR, and the entry in refinement ACTLEVEL is TWOLEVEL, datafill this refinement. This field determines the number of ti that a subscriber may allow two-level digit collect to time out. If this number is exceeded then the c is routed to NACK (nil-acknowledgement) treatment.

FEATNAME = CALLOG

If the entry in field FEATNAME is CALLOG, datafill refinement CALLOG_TIMEOUT and CALLOUT_PRIMARY_DATA as described below, then go to field FNALANN.

Conditional Datafill for Table RESOFC		
Field or Subfield	Entry	Explanation
CALLOG_TIMEOUT		Call Logging Timeout If the entry in field FEATNAME is CALLOG, datafill this refinement. The values 2 to 30 indicate how long the call log feature waits for input before terminating the call log session. The value is in minutes.
CALLOG_ PRIMARY_DATA	NAME or NUMBER	Call Logging Primary Data If the entry in field FEATNAME is CALLOG, datafill this refinement. This field indicates if the name or number is displayed in the first field of the call logging item on the SESAME terminal. If NAME is entered, the name is displayed in the first field of a call log item at the SESAME set. Likewise, if NUMBER is entered, the number is placed in the first field of the call log item at the SESAME set.

-end-

FEATNAME = CMWI

If the entry in field FEATNAME is CMWI, datafill refinements MSGTYPE and RETRSMIT as described below, then go to field FNALANN.

Conditional Datafill for Table RESOFC		
Field or Subfield	Entry	Explanation
MSGTYPE	SINGLE or MULTIPLE	Message Type If the entry in field FEATNAME is CMWI, datafill this refinement. Enter either SINGLE or MULTIPLE depending on how the CMWI subscriber in the office receives message waiting information.
RETRSMIT	0 to 14	Retransmit If the entry in field FEATNAME is CMWI, datafill this refinement. Enter the maximum number of attempts that are allowed for transmission of the message waiting information to the subscriber's set.
		After reaching the maximum, the CMWI message is discarded until the next lamp audit process executes and verifies that the lamp should be turned on. A CMWI message is then sent to the set by the lamp audit process.

DMS-100 Residential Line CLASS Office Data

FEATNAME = CNAB

If the entry in field FEATNAME is CNAB, datafill refinement ANNCS, CNABANNC and ANNCLLI as described below, then go to field FNALANN.

Conditional Datafill for Table RESOFC Field or Subfield Entry Explanation _____ alphanumeric Announcement ANNCS (1 to 16 If the entry in field FEATNAME is CNAB, datafill this refinement. This field is datafilled with a \$ characters (dollar sign) if special dial tone is used for or \$) confirmation of successful CNAB activation. _____ CNABANNC CNABCONF Calling Name Delivery Blocking Announcement If the entry in field FEATNAME is CNAB, datafill this refinement. Enter the CNAB announcement CNABCONF. _____ _____ alphanumericAnnouncement Common Language Location Identifier(1 to 16If the entry in field FEATNAME is CNAB, datafill ANNCCLLI characters) this refinement. Enter the announcement Common Language Location Identifier (CLLI) name. _____ _____

-end-

FEATNAME = CND

If the entry in field FEATNAME is CND, datafill refinement CND_MSGTYPE as described below, then go to field FNALANN.

Conditional Datafill for Table RESOFC		
Field or Subfield	Entry	Explanation
CND_MSGTYPE	SINGLE or MULTIPLE	CND Message Type If the entry in field FEATNAME is CND, datafill this refinement. Enter whether the data message format is sent to the Customer Premises Equipment (CPE) is single or multiple.

-end-

FEATNAME = CNDB

If the entry in field FEATNAME is CNDB, datafill refinements BILLING_OPTION, ANNCS, CNDBANNC and ANNCLLI as described below, then go to field FNALANN.

Conditional Datafill for Table RESOFC		
Field or Subfield	Entry	Explanation
BILLING_OPTION (BCS35-)	NOAMA or AMA	Billing Option If the entry in the field FEATNAME is CNDB and the entry in field ACCESS is UNIVER, datafill this refinement. Enter AMA (Automatic Message Accounting) to enable billing. Otherwise, enter NOAMA.
ANNCS	see subfield	Announcement If the entry in field FEATNAME is CNDB, datafill this refinement. This field consists of subfields CNDBANNC and ANNCLLI.
CNDBANNC	CNDBCONF	CNDB Announcement If the entry in field FEATNAME is CNDB, datafill this refinement. Enter CNDBCONF for CNDB confirmation.
ANNCCLLI	alphanumeric (1 to 16 characters)	Announcement Common Language Location Identifier If the entry in field FEATNAME is CNDB, datafill this refinement. Enter the announcement CLLI datafilled in tables CLLI, ANNS, ANNMEMS and DRAMTRK for CNDB confirmation.

-end-

FEATNAME = COT

If the entry in field FEATNAME is COT, datafill refinements BILLING_OPTION, ANNCS, COTANNID, COTCLLI and ACTLEVEL as described below, then go to field FNALANN.

Field or Subfield	Entry	Explanation
BILLING_OPTION (BCS35-)	NOAMA or AMA	Billing Option If the entry in the field FEATNAME is COT and the entry in field ACCESS is UNIVER, datafill this refinement. Enter AMA (Automatic Message Accounting) to enable billing. Otherwise, enter NOAMA.
ANNCS	alphanumeric (1 to 16 characters)	Announcement If the entry in field FEATNAME is COT, datafill this refinement. Enter up to two announcement Common Language Identifier Locations (CLLI). If less than two CLLIs are required, end the list with a \$ (dollar sign).
COTANNID	COTCONF or CONFAIL	Customer Originated Trace Announcement Identifier If the entry in field FEATNAME is COT, datafill this refinement. Enter COTCONF for a successful trace. Otherwise, enter COTFAIL for a partial trace.
		If COTCONF is not entered, the hard coded feature confirmation tone (2 beeps) is given for a successful COT trace. Similary, if COTFAIL is no entered, then the feature reorder tone (fast busy tone) for 5 seconds is given.
COTCLLI	alphanumeric (1 to 16 characters)	Customer Originated Trace Tone CLLI If the entry in field FEATNAME is COT, datafill this refinement. Enter the announcement CLLI for the COTCONF and COTFAIL.
		Note: The announcement for table CLLI must be previously datafilled in tables CLLI, ANNS, ANNMER and DRAMTRK.

Field or Subfield	Entry	Explanation
ACTLEVEL	ONELEVEL or TWOLEVEL	Activation Level If the entry in the field FEATNAME is COT, datafill this refinement. Enter ONELEVEL to allow the subscriber to access the feature by dialing the feature access code and datafill refinements SECLANG, SANNCS, COTANNID and COTCLLI. Enter TWOLEVEL if the subscriber is prompted to dial a 1 after dialing the feature access code to enable the COT feature and datafill refinements EXPIRIES, BADDIGITS, COTPRMT1, COTPRMTN and

-end-

ACTLEVEL = ONELEVEL

If the entry in field FEATNAME is COT and the entry in refinement ACTLEVEL is ONELEVEL, datafill refinements SECLANG, SANNCS, COTANNID and COTCLLI as described below.

Conditional Datafill for Table RESOFC		
Field or Subfield	Entry	Explanation
SECLANG	Y or N	Second Language The field appears on the switch as SECOND_LANGUAGE. If the entry in field FEATNAME is COT and the entry in refinement ACTLEVEL is ONELEVEL, datafill this refinement. Enter Y if the secondary language announcement is available for the COT feature and datafill refinement SANNCS. Otherwise, enter N and datafill refinement COTANNID.
SANNCS	alphanumeric (1 to 16 characters)	Announcement Common Language Location Identifier If the entry in field FEATNAME is COT and the entry in refinement ACTLEVEL is ONELEVEL and the entry in SECLANG is Y, datafill this refinement. Enter up to two announcement CLLIS. If less than two CLLIS are required, end the list with a \$ (dollar sign).
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Field or Subfield	Entry	Explanation
or	SCOTCONF or SCOTFAIL	Customer Originated Trace Announcement Identification If the entry in the field FEATNAME is COT and the entry in refinement ACTLEVEL is ONELEVEL, datafill this refinement. Enter SCOTCONF for a successful trace. Otherwise, enter SCOTFAIL for a partial trace.
		If SCOTFAIL is not entered, then the hard coded feature confirmation tone (2 beeps) is given for a successful COT trace. Similarly, if SCOTFAIL is not entered, then the feature reorder tone (fast busy tone) for 5 seconds is given.
(1 to 2	alphanumeric (1 to 16 characters)	Customer Originated Trace CLLI The field appears on the switch as SECOND_LANGUAGE. If the entry in field FEATNAME is COT and the entry in refinement ACTLEVEL is ONELEVEL, datafill this refinement. Enter the announcement CLLI for the COTCONF and COTFAIL.
		Note: The announcement for table CLLI must be previously datafilled in table CLLI, ANNS, ANNMEMS and DRAMTRK.

-end-

ACTLEVEL = TWOLEVEL

If the entry in field FEATNAME is COT and the entry in refinement ACTLEVEL is TWOLEVEL, datafill refinements EXPIRIES, BADIGITS, COTPRMT1, COMPRMTN and SECLANG as described below.

Conditional Datafill for Table RESOFC		
Field or Subfield	Entry	Explanation
EXPIRIES	0 to 5	Expires If the entry in field FEATNAME is COT and the entry in refinement ACTLEVEL is TWOLEVEL, datafill this refinement. Enter the number of times the two-level digit collection is allowed to time out. If this number is exceeded the call is routed to NACK (nil-acknowledgement) treatment.

-continued-

Field or Subfield	Entry	Explanation
BADIGITS	0 to 5	Bad Digits If the entry in the field FEATNAME is COT and the entry in refinement ACTLEVEL is TWOLEVEL, datafill this refinement. Enter the number of times two level activation wrong datafill is allowed. If this number is exceeded the call is routed to NACK (nil-acknowledgement) treatment.
COTPRMT1	alphanumeric (1 to 16 characters)	Customer Originated Trace Prompt for Feature 1 If the entry in the field FEATNAME is COT and the entry in refinement ACTLEVEL is TWOLEVEL, datafill this refinement. Enter the CLLI of the first prompting announement provided to the user during two-level activation. This CLLI must be previousl datafilled in tables CLLI, ANNS and ANNMEMS.
COTPRMTN	alphanumeric (1 to 16 characters)	Customer Originated Trace Prompt for nth Level If the entry in the field FEATNAME is COT and the entry in refinement ACTLEVEL is TWOLEVEL, datafill this refinement. Enter the CLLI of the repeat prompting announcement provided to the user during a two-level activation. This CLLI must be previou datafilled in tables CLLI, ANNS and ANNMEMS.
SECLANG	Y or N	Second Language The field appears on the switch as SECOND_LANGUAGE If the entry in field FEATNAME is COT and the entr in refinement ACTLEVEL is TWOLEVEL, datafill this refinement. Enter Y if the secondary language announcement is available for the COT feature and datafill refinements SANNCS, COTANNID, COTCLLI, SCOTPRMT1 and SCOTPRMTN as described below.
		Otherwise, enter N and datafill refinements COTANN and COTCLLI as described below.

Field or Subfield	Entry	Explanation
	-	econdary language announcements for successful and be datafilled as follows:
	COT Announcements (field SANNCS)	Datafill
	0 (zero) COT announcements	 Is the secondary language, both entries of a vector are empty.
	1 COT announcement	Only one vector entry is datafilled. It is qualified with SCOTCONF for successful trace announcement. Otherwise, it is qualified with SCOTFAIL for unsuccessful trace announcement.
	2 COT announcements	Both vector entries are datafilled. They are qualified with SCOTCONF for successful trace announcement and with SCOTFAIL for unsuccessful trace announcement.
SANNCS	alphanumeric (1 to 16 characters)	Announcement Common Language Location Identifiers If the entry in the field FEATNAME is COT and the entry in refinement ACTLEVEL is TWOLEVEL and the entry in refinement SECLANG is Y, datafill this refinement. Enter up to two announcement CLLIS. If less than two CLLIS are required, end the list with a \$ (dollar sign).
COTANNID	SCOTCONF or SCOTFAIL	Customer Originated Trace Announcement Identificati If the entry in the field FEATNAME is COT and the entry in refinement ACTLEVEL is TWOLEVEL, datafill this refinement. Enter SCOTCONF for a successful trace. Otherwise, enter SCOTFAIL for a partial trace.
		If SCOTCONF is not entered, then the hard coded feature confimation tone (2 beeps) is given for a successful COT trace. Similarly, if SCOTFAIL is not entered, then the feature reorder tone (fast busy tone) for 5 seconds is given.

Field or Subfield	Entry	Explanation
SCOTPRMT1	alphanumeric (1 to 16 characters)	Second Language COT Prompt for Feature 1 If the entry in the field FEATNAME is COT and the entry in refinement ACTLEVEL is TWOLEVEL and the entry in refinement SECLANG is Y, datafill this refinement.
		Enter a secondary language announcement for the initial prompt for two-level activation of CO feature 1.
SCOTPRMTN	alphanumeric (1 to 16 characters)	Second Language COT Prompt for nth Level If the entry in the field FEATNAME is COT and the entry in refinement ACTLEVEL is TWOLEVEL and the entry in refinement SECLANG is Y, datafill this refinement.
		Enter a secondary language announcement for the Nth level prompt for two-level activation of COT feature.

-end-

FEATNAME = DRCW

If the entry in field FEATNAME is DRCW, datafill refinements BILLING_OPTION and MAXSIZE as described below, then go to field FNALANN.

Conditional Datafill for Table RESOFC					
Field or Subfield	Entry	Explanation			
BILLING_OPTION (BCS35-)	NOAMA or AMA	Billing Option If the entry in the field FEATNAME is ACB, AR, CNDB, COT, DRCW, SCA, SCF or SCRJ and the entry in field ACCESS is UNIVER, datafill this refinement. Enter AMA (Automatic Message Accounting) to enable billing. Otherwise, enter NOAMA.			
MAXSIZE	0 to 8191	Maximum Size If the entry in the field FEATNAME is DRCW, SCA, SCF, or SCRJ, datafill this refinement. Enter the maximum size of the selective call list for the office. The recommended size is 31. The lesser of this field and parameter SLE_ITEMS_IN_SEGMENT in table OFCENG controls the maximum size of the list.			

-end-

FEATNAME = DSCWID

If the entry in field FEATNAME is DSCWID, datafill refinements WAITANNC and REALERT as described below, then go to field FNALANN.

Conditional Datafill for Table RESOFC Field or Subfield Entry Explanation _____ WAITANNC alphanumeric Wait Announcement (1 to 16 If the entry in the field FEATNAME is DSCWID, characters) datafill this refinement. Enter the announcement CLLI. This is the announcement received by the waiting party when the WAIT option is chosen by the DSCWID subscriber. _____ REALERT Y or N Realert If the entry in the field FEATNAME is DSCWID, datafill this refinement. Enter Y if a realert is desired. Otherwise, enter N. The default is Y. _____

-end-

FEATNAME = SCA or SCRJ

If the entry in field FEATNAME is SCA or SCRJ, datafill refinements BILLING_OPTION, MAXSIZE and ANSWRSUP as described below, then go to field FNALANN.

Conditional Datafill for Table RESOFC						
Field or Subfield	Entry	Explanation				
BILLING_OPTION (BCS35-)	NOAMA or AMA	Billing Option If the entry in the field FEATNAME is SCA or SCRJ and the entry in field ACCESS is UNIVER, datafill this refinement. Enter AMA (Automatic Message Accounting) to enable billing. Otherwise, enter NOAMA.				
MAXSIZE	0 to 8191	Maximum Size If the entry in the field FEATNAME is DRCW, SCA, SCF or SCRJ, datafill this refinement. Enter the maximum size of the selective call list for the office. The recommended size is 31. The lesser of this field and parameter SLE_ITEMS_IN_SEGMENT in table OFCENG controls the maximum size of the list.				

Field or Subfield	Entry	Explanation
ANSWRSUP	Y or N	Answer Supervision Enter Y when answer supervision is returned when a rejected call for SCA goes to SCA treatment or for SCRJ goes to SCRJ treatment. Otherwise, enter N. This applies long distance charges for the call.

-end-

FEATNAME = SCF

If the entry in field FEATNAME is SCF, datafill refinements BILLING_OPTION, MAXSIZE, SCRNCL, RINGMEM and NUMCALLS as described below, then go to field FNALANN.

ACCESS = UNIVER

Conditional Datafill for Table RESOFC

If the entry in field ACCESS is UNIVER, datafill refinements BILLING_OPTION, MAXSIZE, SCRNCL, RINGMEM and NUMCALLS as described below, then go to field FNALANN.

Field or Subfield	Entry	Explanation
BILLING_OPTION (BCS35-)	NOAMA or AMA	Billing Option If the entry in the field FEATNAME is SCF and the entry in field ACCESS is UNIVER, datafill this refinement. Enter AMA (Automatic Message Accounting) to enable billing. Otherwise, enter NOAMA.
MAXSIZE	0 to 8191	Maximum Size If the entry in the field FEATNAME is SCF, datafill this refinement. Enter the maximum size of the selective call list for the office. The recommende size is 31. The lesser of this field and parameter SLE_ITEMS_IN_SEGMENT in table OFCENG controls the maximum size of the list.
SCRNCL (BCS35-)	NSCR	Screening Class If the entry in the field FEATNAME is SCF and the entry in field ACCESS is UNIVER, datafill this refinement. Enter NSCR for no screening class.

Field or Subfield	Entry	Explanation
RINGMEM (BCS35-)	NORING RING, OT NA	Ring Member If the entry in the field FEATNAME is SCF and the entry in field ACCESS is UNIVER, datafill this refinement. Enter NORING, RING or NA (not applicable).
NUMCALLS (BCS35-)	1 to 1024	Number of Calls If the entry in the field FEATNAME is SCF and the entry in field ACCESS is UNIVER, datafill this refinement. Enter a number to indicate the number of calls.

-end-

FEATNAME = SCWID

If the entry in field FEATNAME is SCWID, datafill refinement ACKTONE as described below, then go to field FNALANN.

_____ _____ Conditional Datafill for Table RESOFC Field or Subfield Entry Explanation _____ ACKTONE Y or N Acknowledgement Tone Enter Y if an acknowledgement tone is desired. Otherwise, enter N. Field ENABLED must be datafilled Y to allow delivery of calling party identification during call waiting for SCWID subscribers. -----_____ -end-

FEATNAME = All Entries

Datafill the following refinements for all features.

Field Descriptions	for Table RESOFC	
	Entry	Explanation
	see subfields	Feature Not Allowed Announcement This field consists of subfields POTS_ACCESS and FNAL_CLLI.
POTS_ACCESS	00 to 99	POTS Access Enter the two digit plain ordinary telephone service (POTS) access code for activation of the CLASS feature that is used in POTS translation. The entry in this subfield must be identical to the table access code that is datafilled in table IBNXLA and used by the Meridian Digital Centrex (MDC) (Integrated Business Network (IBN)) lines.
FNAL_CLLI	alphanumeric (1 to 16 characters)	

-end-

Datafill Example

Example of datafill for table RESOFC are shown below.

Datafill Ex	amples for	Tabl	e RI	ISOFC											
Example of	a MAP disp.	-													
KEY ENABLEI	þ														
	FNALA	NN										FEATDA	ΓA		
АСВ У															
SUBSCR	ACB	5	3	30	180	60	5	5	2	Y	DENY	DENY	DENY	N	\$
AR Y SUBSCR	ONELEVEL	5	3	30	180	60	5	5	2	Y	DENY	DENY	DENY	Y	
	ONEDEVED	5	5	50	100	00	5	5	2	1	DENI	DBMI		1	
COT Y SUBSCR	COT	ONE	LEVI	SL :	\$N										\$
DSCWID N															
N UINGGU															
							ST	JBSCR	DSC	WID	NII	LWAITAN	NC Y		

Table History

BCS36 Default values for feature ACB and AR were added. Description of field ACCESS and of refinement FLASHACT for features ACB and AR was clarified.

Supplementary Information

This section provides information on announcement CLLIs and dump and restore procedures fo table RESOFC.

Announcement CLLIs

Table 1 shows examples of announcement CLLIs.

Table 1 Announcement CLLIs	
CLLI	Announcement
cllix	Primary Language Trace Success
clliy	Primary Language Trace Failure
cllil	Primary Language Initial Prompt
cllin	Primary Language nth Level Prompt
cllia	Secondary Language Trace Success
cllib	Secondary Language Trace Failure
cllis1	Secondary Language Initial Prompt
cllisn	Secondary Language nth Level Prompt

Table 1 Announcement CLLIs

Dump and Restore

If the entry in field FEATNAME is COT, copy all existing fields from the old tuple to the new tuple. Initialize the new fields added by this feature to their NIL values in the new tuple. Follow the existing restore table procedure with the new tuple. Otherwise, copy with existing restore table procedure with old tuple. For two–level activation, fields BADIGITS and TIMEOUT are datafilled to 0 (zero) if the old tuple is datafilled two–level.

If a feature AR tuple is previously datafilled as one-level activation, fields BADIGITS and TIMEOUT do not appear.

WI Bell – Official Telephone Directory



This is a scan of an old *Wisconsin Bell/Ameritech Official Telephone Directory* (OTD). This is the internal phone book used by the phone company for keeping track of all their secret phone numbers. It is highly prized by hackers/phreaks. This version is quite old now, so it should be safe to give out. Most of the phone numbers no longer are in operation or have been changed. It can still be a good reference for studying your telephone company's operations hierarchy.

Scanned were only the cover (shown above), the first few pages of the index, the entire *General Services Section*, two pages of *Emergency Operations* section and one page of the *Emergency Residence Numbers* section. The other 100 pages or so contain an entire list of employee names, numbers and office locations. It also has central office contact numbers and their locations. There is an *Organizational List* containing contact numbers and locations from everyone from lawyers, accountants to trunk administrators. The *Emergency Residence Numbers* section contains a list of the personal home phone numbers of the major employees to contact is case of an emergency. The final section is the corporate wide office contact phone numbers.

WI Bell – Official Telephone Directory



February, 1991

Official Telephone Directory

Executive and General Departments 722 N. Broadway • Milwaukee, WI 53202 Telephone: Toll Free - Dial '1' & Then 800 924-3131 For in-dialing 678 & extension number

TABLE OF CONTENTS

- White Pages
 - Informational Pages
 - Alphabetical Listings
- Blue Pages
 - General Services Section

Yellow Pages

- Organizational Listings in RC Sequence
- Authorized Sales Representatives of Wisconsin Bell
- Central Office Locations

Pink Pages

- Emergency Operations
- Departmental Operations Centers
- Emergency Operating Center Staff (HEOC/ERC)
- Emergency Residence Numbers

Green Pages

- Ameritech Companies, Subsidiaries & Wisconsin Locations
- Bellcore
- Rotational Employees
- Wisconsin Bell Communications Inc.

TO ORDER MORE DIRECTORIES OR TO MAKE CHANGES IN THE DIRECTORY - SEE PAGE 2

PROPRIETARY INFORMATION

Previous Directory Must Be Shredded.

Page 1

WI Bell – Official Telephone Directory

Local Calling

Official Centrex Dialing Guide — Metro Milwaukee

All company telephone numbers with the following first three digits can call each other by simply dialing the four digit extension number.

678	549	768	535	797
-----	-----	-----	-----	-----

To dial between 456 business office numbers dial 8 and the four digit number.

Other Important Numbers

To Report Trouble - Milwaukee Area Information Metroplan Area		
Information - Other than Local	555-	1212
Employee Locator — Metro Milwaukee All Others Call Toll Free - Dial '1' and Then		

NOTE: Although the procedures to activate features are the same in every Centrex the codes differ. The following activation codes apply only for Metro Milwaukee Centrex lines with a 678, 549, 797, 535 and 768 prefix. All other Centrex users should verify their particular activation codes before reporting trouble.

To Transfer A Call

- 1. Depress the switchhook once and release it.
- 2. Listen for steady dial tone.
- 3. Dial the desired four or five digit extension number.

When the intended party answers, announce the call, depress the switchhook once and release it. Your call is now connected to the other extension and you may hang up.

Consultation Hold

To hold an existing call while consulting with another party:

- 1. Depress the switchhook.
- 2. Listen for steady dial tone.
- 3. Dial the number of the consulted party.

When consultation is completed, depress the switchhook twice to connect original party and drop third party.

Page 3

SERVICES

A	
MACC Net Svcs R4 845 N 35	6561
MARC See TNSC (Telecommunications Network Sve	
PI-Ameritech Publishing Inc See Green F	ages
RSB FE Hotline Distb Svcs R111 918N 26	0244
SI-Ameritech Services Inc See Green F	ages
SI Service Consultant ASI	-
1flN17 W24300 Riverwood Dr Wksh 523-	7911
ccident Benefits Benfts R1000722NBrdy	3062
ccident Reporting	6215
ccounting Standards FASC Admin	
Accounting Standards	6041
FASC Administration	6043
ccounting Stf-Revenue Methods &	
CABS	
CABS Change Management	2829
Change Management	23/0 6441
CRIS Billing & Adjustments	6935
CRIS Message & Toll Billing	6952
Revenue Journal Entries	6935
CRIS Billing & Adjustments CRIS Message & Toll Billing Revenue Journal Entries WATS Billing	0389
ccounts Operations AcctgOpms-	
Corr Bills Final Accts Info WATS Info WATS (Ind Co)	4579
Final Accts Info	6438
WATS Info	4579
WATS (Ind Co)	6563
852's-Non-Svc Ord Advice	6438
MA 9 Report Out-Of-Svc Outages	6459
Tax Exemptions	6409
Tax Exemptions	6438
ddress Changes-Co Mail SupSycs 801 N 35	83U3 9/1/
dministrative Bulletins AdmSvcs 3fl722NBrdy	
dministrative Support Ctrs (ASC) Adm Sycs-	
Appleton 4321 W College Appl	3022
Eau Claire 304 S Dewey Eau Cl 393-	3700
Green Bay 1543 Park Place Grn By 393-	3939
Madison 316 W Washington Mdsn 393-	3400
Supv Clk 252-	2969
W156 N4969 Pilgrim Rd Men Fis	5865
722 N Broadway— 1fl	-
1fl	3435
3fl 5fl	2006 4122
Supv Clk	2078
6fl	6092
Supv Clik	4536
7fl	4096
Supy Clk	2140
811	2785
Supv Clk	3294
911	
Supv Clk	4671
10fl	
Supv Clk	4745
11ff	6943
Supv Clk	6771
12fl	
	2344

Continued From Last Column	
Administrative Support Ctrs (ASC)—	
722 N Broadway— 14fl North ————————————————————————————————————	
14fl North	2041
14fi Norri	3580
Supy Clk	2828
740 N Broadway—	2020
2fl	3409
Supv Clk	3163
311	
4fi	3345
6fi 6fi Supv Clerk	2352
21/10 Davidson Rd Wikeh	
UL/Opr Svcs UL/Public Comms LL/Engrg	
UL/Public Comms	7235
LL/Engrg	2209
200 S Executive Dr Brkfld—	
111	- 789-3898
2fl	- 789-3972
211 411 Supv Clk 225 S Executive Dr Brkfld	- 789-3975
SUPV CIX	- /89-3979
3fl East 17950 W Corporate Dr Brkfid	/9/-1686
Supy Cik	792-8090 792-8080
3fl West 17950 W Corporate Dr Brkfid	792-8301
Sunv Clk	792-8344
Supv Clk 2400 Kossow Rd Wksh	- 797-1307
Supv Clk Supv Clk Supv Clk	- 797-1306
2600 N Mayfair Rd	3055
Supv Clk	5 681
804 N Milwaukee	
3fl Supy Clk	
SUDV CIK	6200
Supv Clk 411 Supv Clk 3044 S Logan Av Supv Clk 217 733 N Van Buren	
3044 S Logan Av	0200
Supy Clk	6200
2fl 733 N Van Buren	
	2895
633 W Wisconsin Av—	
9fl West	7761
9fl East	7760
911 East	0976
14fl	3819
2430 10th Av S Milw	
801 N 35	
642 N 62	
6-1	3717
1-A 1-B	4530
1-B	3892
Supv Cik	6716
2fl	6713
N15 W24250 Riverwood Dr Wksh	3219
Supv Clk	0057
N17 W24300 Riverwood Dr Wksh-	F00 0000
1 Fl	- 523-8922
2 Fl	- 523-8927
	- 523-89/0
3 Fl	- 523-8508
Supv Clk	- 523-8521
Continued On Next Page	

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ADMINISTRATIVE S-BENEFIT

ADMINISTRATIVE S-BENEFIT
Continued From Last Page
Administrative Support Ctrs (ASC)—
N17 W24300 Riverwood Dr Wksh-
Lwr Level 523-1576
11425 W Lake Park Dr Milw 2252
Supv Clk 5825
Advertising Mktg13fi722NBrdy 2160 Business Usage
Business Usage2160
Public Communications2160
Residence Svcs
Affirmative Action Counselor Pers2993
Allotments acctameth ASC 61 845 N 35
Allotments Acctg Opris R267 845 N 35 6274
Ameritech Publishing Inc (API) See Green Pages
Ameritech Savings Plans-Call Amer
Transtech
Toll Free-Dial '1' & Then 800 248-2411 Ameritech Services Inc (ASI) See Green Pages Annoyance Call Bureau R501 316 W Wash Mdsn
Ameritech Services Inc (ASI) See Green Pages
Annoyance Call Bureau R501 316 W Wash Mdsn
Toll Free-Dial '1' & Then
Annual Report Corp Com 13fl 722 NBrdy 2211
Appleton Residential Customer Service
Center-
Managers 735-3344
Accounts 221 W Wash Appl Toll Free-Dial '1' & Then 800 924-1000
Orders 221 W Wash Appl
Toll Free-Dial '1' & Then 800 924-5678
Applications Cntl Ctr Data Sys—
Operations R172845N35
Operations R172 845 N 35 4666 Support R160 845 N 35 3490
Applied Data Network Institute
N17 W24300 Riverwood Drive Wksh 523-1588
Archives See Records Center
Arts Matching Gifts Corp Com—
Forms 13/1722 NBrdy0065
Information 13fl 722 NBrdy2310
Assessment Programs Pers2301
Audio-Visual Eqpt Adm Svcs2936
Auditing Audit 15fl722NBrdy6082
Automated Repair Service Bureau (ARSB)
Support-
CRAS/ACE0204 Data Base Error Correction-IMOS2022
VCAS0350
CRSAB Procedures0350
LMOS Field Support
DSOC Procedures2633
MLT 393-3297
MTAS0350
PREDICTOR
TECH DIRECT3653
Automotive Operations Sup Svcs—
Staff—
AOSC Data Base Adm 523-8606
Gasoline Credit Cards Toll Free-Dial '1' &
Then
Fuel Tanks/Pumps 523-8604
Control Centers-
Milw Div Toll Free-Dial '1' & Then
2406 S111 393-2277
State Div Toll Free-Dial '1' & Then
221 W Wash Appl 393-2886 Motor Pool Reservations—
Appleton 311 W Packard Toll Free-Dial
NPURCON SIT W PACKARD TON PRE-Dial
'1' & Then 393-1766 Madison 316 W Wash Av 252-2645
Continued On Next Column

SERVICES	
Continued From L ve Operations— ool Reservations—	.ast Column

2

SERVICES	2
Continued From Last Column	
Automotive Operations—	
Motor Pool Reservations—	
Milwaukee—	
N17 W24300 Riverwood Dr Wksh Toll	
Free-Dial '1' & Then	- 393-1766
411 E Kilbourn Av Toll Free-Dial '1' &	
Then	- 393-1766
918N26	
845 N 35 Toll Free-Dial '1' & Then	
N15 W24250 Riverwood Dr Wksh Toll	
Free-Dial '1' & Then	- 393-1766
Out Of Hours Emerg No	
Or Toll Free-Dial '1' & Then	
Repair Centers—	575 2
Milw Div 2406 S111	
State Div—	
Appleton 2580 American Dr	725-28/0
Appleton 2580 Allericantor	- 733-3040
Eau Claire 2716 EDavey	
Green Bay 3198 Ridge Rd	
Janesville 525 Wright Rd	
Madison 316 W Wash Av	- 252-2399

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BICS Distb Svcs-

Appleton—	
Toll Free-Dial '1' & Then	
Eau Claire	839-5677
Fox Valley-Fond Du Lac	
	929-1009
Toll Free-Dial '1' & Then	800 924-3368
Green Bay-	
	433-4126
Toll Free-Dial '1' & Then	393-2422
Madison	252-2908
Milwaukee	778-3130
Milwaukee Toll Free-Dial '1' & Then	393-2427
BOFADS Sis& Syc 6fl 740 NBrdy	6518
BSP Coordinator Sup Svcs 801 N 35	
Badger Bell Mktg 13fl 722 NBrdy	
Bank Deposit Discrepancies Treas	2014
Bell Book Mktg 2fl 804 N Milw	2519
Bell Independent Relations	
See Exchange Ca	arrier Relations
Belicore Letters Sup Sycs 801N35	
Benefit Asst Report Ctr Benfts	
R1000 722 NBrdy	
Benefit Ofc Benfts-	
R1000 722 N Brdy	
Benefit Reps-Retired Empls—	
A-G	4789
H-0	
P-Z	
Bridging Svc & Svc Credit	
Commemorative Gifts-	
Death Benefits	
Dependent Gro Life	
Health Plans—	
Toll Free-Dial '1' & Then	
Leaves Of Absence	
Pension Info	
Sickness-Accident-Absence	
Telephone Svc-Retired Empl	
Workers Comp	
Workers Comp	JUOL

3	SERVICES
Best Program	See Tuition Aid
Billing-Custom & Misc See Cust	tom & Misc Billing
Blue Cross-Blue Shield Claim Inquiries	s
Preferred Svc-Milw	226-5555
In-State Inquires Toll Free-Dial '1' & Then	
Toll Free-Dial '1' & Then	800 242-7160
Bridging Svc Benfts R1000 722 NBrdy -	3571
Brookfield Cable SOI/IDP Business Systems Data Sys	6210
Budget Preparation/Analysis Acctg Opr	
Building Operations Control Ctr (BOC	C) sup
svcs—	
All Building Maintenance & Service	
Toll Free-Dial '1' & Then	800 924-5//4
LocalBusiness Communication Systems-Pro	523-8611
Development	678-2380
Business Offices—	
See Collection Ctrs	
Or Residential Customer Service Ctr	rs
P120a 740 NPres	2660
Business Units SIs & Svc—	
Madison R404 316 W Wash Mdsn	252 -207 7
Milw 12fl 633 W Wis	3993
Business Wire Marketing	678-5765
с	
CAROT/TOSC Net Svcs R314a918N26	4747
CATV Project Coordinator Distb Svcs	4/20
3419 W Wis Av CBAS Coordinator Net P & E 11fl	4638
	morate Televicion
CCTV See Co	rporate Television 2713
CCTV See Con C F I Adm Svcs 801 N 35	rporate Television 2713
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CCTV ———————————————————————————————————	
CCTV See Cor CF I Adm Svcs 801N35	
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CCTV See Cor CF I Adm Svcs 801 N 35 CF CPC/MAC Distb Svcs— N1 7 W24300 RiverwoodDr Wksh Toll Free-Dial '1' & Then Or Call CRIS File Proc Actg0pms— Acctg Error Corr— Milw	
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CCTV See Cor CF I Adm Svcs 801 N 35 CPC/MAC Distb Svcs— N17 W24300 Riverwood Dr Wksh Toll Free-Dial '1' & Then Or Call CRIS File Proc Acctg 0pms— Acctg Error Corr— Milw State Adj Docu	2713
CCTV See Con CF I dam Svcs 801 N 35 CPC/MAC Distb Svcs N1 / W24300 Riverwood Dr Wksh Toll Free-Dial '1' & Then Or Call Call '1' & Then CRIS File Proc Actg0pms Actg Error Corr Milw State Adj Docu CRIS File Guides	2713
CCTV See Cor CF I Adm Svcs 801 N 35 See Cor CPC/MAC Distb Svcs	2713 393-3124 523-8735
See Cort See Cort CF I Adm Svcs 801 N 35 CPC/MAC Distb Svcs— N12 W24300 Riverwood Dr Wksh Toll Free-Dial' 1' & Then Toll Free-Dial' 1' & Then Credit Site Proc Acctg Opms— Acctg Error Corr— Milw State Adj Docu CRIS File Guides Credit Cards— Milw Milw	2713 393-3124 523-8735 6763 6150 3667 6150 6469
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CCTV See Cor CF I Adm Svcs 801 N 35 See Cor CPC/MAC Distb Svcs— N17 W24300 RiverwoodDr Wksh Toll Free-Dial '1' & Then Or Crall — CRIS File Proc Acctg Opms— Acctg Error Corr— Milw State Acctg Opms— CRIS File Guides Credit Cards— Milw State State State Credit Cards— Milw State Refund Typists Manual Rating	2713 393-3124 523-8735 6763 6150 6157 6157 6157 6506 6469 6469 6457 6506 6733
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CCTV See Cor CF I dam Svcs 801 N 35 CPC/MAC Distb Svcs N1 / W24300 Riverwood Dr Wksh Toll Free-Dial '1' & Then Or Call CRIS File Proc Acctg Opms Acctg Error Corr Milw State Adj Docu CRIS File Guides Credit Cards Milw State Refund Typists Manual Rating CRIS Heip Line Data Sys 6/1740 NBrdy	2713 393-3124 523-8735 6763 6150 6469 6469 6469 6469 6763 6763 6763 8774
CCTV See Cor CF I dam Svcs #01 N 35 CPC/MAC Distb Svcs N1 / W24300 Riverwood Dr Wksh Tofl Free-Dial '1' & Then Or Call CRIS File Proc Actg0pms Actg Error Corr Milw State Adj Docu CRIS File Guides Credit Cards Milw State Refund Typists Manual Rating CRIS File Data Sys 6/1740 NBrdy CUCRIT Coordinator Net P& E 8/1722 N Cafeterias Sea Constant Sea Constant Sea Constant Cafeterias Sea Constant Sea Constant Sea Constant Sea Constant Cafeterias Sea Constant Cafeterias Sea Constant Sea Constant Cafeterias Sea Constant Cafeterias Sea Constant Sea Constant .	2713 393-3124 523-8735 6763 6150 3667 6150 6469 6157 6506 6469 6157 6506 6773 Brdy 5774 se Dining Services 4989
CCTV See Cor CF I Adm Svcs 801N 35 See Cor CPC/MAC Distb Svcs	2713 393-3124 523-8735 36763 3667 6150 6469 6469 6469 6773 18rdy 5774 te Dining Services 4989 6648
CCTV See Cor CF I Adm Svcs 801 N 35 C CPC/MAC Distb Svcs	2713 393-3124 523-8735 36763 3667 6150 6469 6469 6469 6773 18rdy 5774 te Dining Services 4989 6648
CTV See Cor. CT I Adm Svcs 801N 35 See Cor. PC/MAC Distb Svcs N1 N1 W24300 Riverwood Dr Wksh Toll Free-Dial '1' & Then Or Call CRIS File Proc Acctg Opms Acctg Error Corr Milw State Acting Credit Cards Credit Cards Milw State Adj Docu CRIS File Guides Credit Cards Milw State Milw Adj Docu CRIS File Guides Credit Cards Milw State Adj Docu Alting State Adj Docu CRIS File Guides Credit Cards Milw State State Adj ICT Coordinator Net P & E 81722 Na Alefterias Se CAMPS Sader Service Area Card Records (Milw Oprns) Distb Svcs- Mitchell Service Area	2713 393-3124 523-8735 6763 6150 3667 6150 6469 6469 6469 6763 6774 8774 8777 8774 8777 8774 8777 8774 8777 8774 8777 8774 8777 8774 87777 8777 8777 8777 8777 8777 8777 8777 8777 8777 8777 87
CCTV — See Cor CF I Adm Svcs 801N 35 CPC/MAC Distb Svcs— N17 W24300 Riverwood Dr Wksh Toll Free-Dial '1' & Then — — Or Call — — RIS File Proc Acctg Opms— Acctg Error Corr— Milw — — — — — — — — — — — — — — — — — — —	2713 393-3124 523-8735 6763 6150 3667 6150 6150 6150 6150 6150 6150 6150 6150
CCTV See Con CF I Adm Svcs #01 N 35 CPC/MAC Distb Svcs N1 / W24300 Riverwood Dr Wksh Toll Free-Dial '1' & Then Or Call CRIS File Proc Actg 0pms Actg Error Corr Milw State Adj Docu CRIS File Guides Credit Cards Milw State Refund Typists Manual Rating Ratu Bata Sys 6/1740 NBrdy CCRI Tolor Condinator Net P& E 8/1722 N Card Retordinator Net P& E 8/1722 N Cafdererias Card Records (Milw 0pms) Distb Svcs Witchell Service Area 281-282-383-384-421-423-481-44 643-645-647-647-647-671-672-74	2713 393-3124 523-8735 6763 6150 6150 6157 6150 6469 6157 6506 6773 8774 82 Dining Services 4989 6648 - 882-483- 4747-
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BEST—COMPUTER
Continued From Last Column
Card Records (Milw Oprns)— Waukesha Service Area—
321-327-422-425-521-529-541-542-543- 544-545-546-547-548-549-662-679-
691-782-784-785-786
CTAP 393-1416
Career Counseling Reference Material Pers 797-1730 Carrier Services Sis & Svc—
Interexchange Carrier Svc Ctr (ICSC)
9fl 633 W Wis Av7761 Interexchange/Intermediary Sales
14fl 633 W Wis7780
Cashier Service Treas R1600722NBrdy2014 Central Report Center-Interexchange
Carriers Net Svcs R310 918 N26
Centralized Line Asomt System
(CLAS) NetSvcs R315-D918N260644 Centralized Mail Remittance (CMR)—
Mechanical Processing
Manual Processing6691
Centralized Operations Group (COG) Sis & Svc
9fl 633 W Wis 0850
Centralized Repair Svc & Attendant Bureau (CPSAR) Districtions 7721 Without duites Av. 525-5068
(CRSAB) Distb Svcs 7721 W Fond du Lac Av 535-5068 Centrex Marketing
Claims—
Auto 15f1722NBrdy3670 Material (ASI)
1fIN17 W24300 Riverwood Dr Wksh 523-7925
Pole & Cable 15f1722 NBrdy2383
After 5 PM & Weekends & Holidays 3415 Coin & Coinless Sales & Svc
Coin & Coinless Sales & Svc Intra-Co 2420 Kossow Rd Wksh549-7208
Or Call Toll Free-Dial '1' & Then 800 924-2772 Public Telephone Installation &
Maintenance Ctr 549-7220
Collection Centers— Business 11#633 W Wis
Toll Free-Dial '1' & Then 800 924-2500
M & Misc Accts R501 316 W Wash Mdsn
Toll Free-Dial '1' & Then 393-2401 Residence 7721 WEenddul ac Av
Residence 7721 W Fond du Lac Av Toll Free-Dial '1' & Then 800 924-1500
Student Toll R501 316 W Wash Mdsn Toll Free-Dial '1' & Then 800 924-6988
College Employment Pers R1012356
College Matching Gifts Corp Com-
College Matching Gifts Corp Com— Forms 13fl722NBrdy 0065 Information 13fl722NBrdy 2310
Commemorative Gifts & Svc Emblems Benfts
R1000722NBrdy3065
Communications Ctr Adm Svcs
Or Call Toll Free-Dial '1' & Then 393-2065
Facsimile Transmissions6319 6467
Community Relations Corp Com 13fl 722 NBrdy 2391
Complaints-EEO Pers 12fl 722 NBrdy2993 Complex Business Staff Sis Opros
11fl 633 W Wis 3856
Computer Jobs (Batch) Execution DataSys
R221845N35 4666 Computer Operations Data Sys-
Howell Av 7737 Showell Av0440
35th St R221 845 N 35
Continued On Next Page

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COMPUTER O-DIAL	
Continued From Last Page	
Computer Operations—	
35th St	
	4224 3060
Computer Room	3000
	c Ctr)
See TNSC (Telecommunications Network Sv Computer Software Training & Personal Computer Data Sys	,
Computer Data Sys	4636
Computer Terminal	
Acquisition/Movement/Replacement Data Sys N15 W24250 Riverwood Dr Wksh	FOOF
Computerized Filing Index Adm Svcs 801 N 35	
Conference Planning Adm Svcs—	
R150 722 N Brdy-	
Conf Arrangements Off Premises	2887
Food Svc Catering On Premises Audio-Visual Equipment	3613
Or Call Toll Free-Dial '1' & Then 393-	2936
Conference Rooms Adm Svcs-	2000
Madison-	
Reservations 316 W Wash 252-	2336
Milwaukee	
Reservations	
R3a722 N Brdy R102722 N Brdy	3400
R102 / 22 N Brdy R403 722 N Brdy	2694
R404722NBrdy	2696
R120-C 740 NBrdy	0127
R340 740 NBrdy	2089
Riverwood Suburban Office	
Conference Center Reservations 523-	2885
Other Conference Rooms Reservations 523- Confidential Information Coordinator Security	8508
15fl 722 NBrdy	2466
Contributions Corp Comm 13fl 722 N Brdy	
Corp Credit Card	2014
Corporate Accounting ASC 2	
740 NBroadway Milw 678- Corporate Accounting-Leasing ASC 2	5891
740 NBroadway Milw 678-	1025
Corporate Budgeting-MR/IBPS Acctg Oprns	3382
Corporate Communications Department	
13fi 722 N Brdy	4746
Corporate Data Svcs-Bus Ofc Data Sys N15 W24250 Riverwood Dr Wksh	
N15 W24250 Riverwood Dr Wksh	5995
Corporate Identification Graphics Corp Com 13fl722NBrdy	0504
Corporate Planning Corp Ping 14-S fl 722 NBrdy	2394
Corporate Records Secy R1600-C722 NBrdy	
Corporate Television Corp Com-	
Rm 103 722 N Brdy—	
Control Room	3376
Control Room	2416
Correspondence Course See Training Center	2293
2400 Kossow Road Wksh	
Credit Unions	
Appl 103E Wash 733-	7648
Eau Cl 405 SFarwell 836-	0077
Fn d L 45E Sheboygan 921 Grn By 501 Clinton 436	8777
Miden 555 W Wash Av 259	7000
Mdsn 555 W Wash Av 258 Mntwc 1126 S10 684-	7148
Milw 12700 W Blu Mod Rd	2040
Milw R312757 NBrdy 225- Osh 203 Church Av 235-	2440
Osh 203 Church Av 235-	1665
CRIS Help Line Data Sys 6fl 740 NBrdy	6777
CRIS Reports Data Sys	6229

SERVICES	4
Custom & Misc Billing Sis & Svc-	
Carrier Billing	4650
Common Carrier Facilities	6370
Indep Co Credits	4650
Journal Entries	6370
Misc Dir Adv	6370
Summary Billing	6764
Misc Accts Info	6298
Customer Complaints Corp.Com	
Customer Guide-Directory	
1fl 225 S Executive Dr. Brkfld	

D

DBAC/DBAS-Net SS 2140 Davidson Wksh Toll Free-Dial '1' &	
Then	
Inwats Intercept Toll Free-Dial '1' & Then	393-3344
After Hrs Emergency	549-7358
Computer Oper	549-7360
Adm Cik	
Data Ctr-Howell Av Data Sys 7737 S Howell Av -	768-0441
Data Ctr-Pewaukee Data Sys	
N15 W24250 Riverwood Dr Wksh	
Data Ctr-35th St Data Sys R221 845 N 35	6396
Data Network Requests Data Sys	
N15 W24250 Riverwood Dr Wksh	5995
Data Products Marketing	678-2380
Data Services Data Sys-	
Batch Computer Jobs Asstnce	
Computer Output Distb R253845N35	6855
Corporate & External Affairs PC Users	
Helpline	0157
Data Network Help Desk	
Or	4044
Toll Free-Dial '1' & Then	
	- 393-2/44
Data Network Operations	
Howeli Data Ctr	
Pewaukee Data Ctr	7639
Or	
Toll Free-Dial '1' & Then	
EAS Help Desk	4644
RACF Sec Adm	
N15W24250RiverwoodDr Wksh	
Training-Mainframe & Personal Computer	
2fl 733 N Van Buren	4636
Data Systems Manual Publication Data Sys N15 W24250 Riverwood Dr Wksh	
N15W24250 Riverwood Dr. Wksh	6213
Data Systems Services Information Services	
845 N 35—	
CRIS/SORD/Billing—	
Billing Support	61 20
Rate Change Support	0120 E9E9
SORD Support	
Marketing Information Systems—	02/0
CRIS Reports Mktg IDP	
Directory Support	0229
Services Order Interfaces	
Death Benefits Benfts R1000722NBrdy	4471
Dental Claims—	
Preferred Svc-Milw	226-5555
In-State Inquiries	
Toll Free-Dial '1' & Then 800	242-7160
Dial Dictation Service Adm Svcs—	
Internal Dictation External Dictation	0181
External Dictation	5996
Or Call Toll Free-Dial '1' & Then	393-1800

General Services Section

5	SERVICES
Dining Services Adm Svcs-	
Special Food Arrangement	s
Corporate Dining Room Re	servations 361
Catering On Premises—	
4fl 740 N Brdy	3020
Catering On Premises- 4fl 740 NBrdy 4fl 918 N 26 Lower Level 845 N 35	242
Lower Level 845 N 35	632
Lower Level N17 W24300	Riverwood Dr Wksh- 523-176
Madison 10fl 316 W Wash	Av Mdsn 252-2018 d Wksh 549-7314
Waukesha 2140 Davidson R	d Wksh 549-7314
Direct Marketing-Telemarke	
	fld 792-841
Directories SIs Oprns—	
Local-Foreign-Official Tele	phone Dir
5611 W Mill Rd Milw	462-345
Street Address Directories 1fl 225 S Exec Dr Brkfld	707 104
Directory White Pages On	/9/-1044
Directory White Pages Op	797-168
Directory Advertising Servic	
2fl 200 S Evec Dr. Brkfid	797-5830
Directory No Administration	Center DNAC_
R315-D 918 N 26-	CONC. DIMO-
Stf	4488
	371
Metro North-Mdsn-Eu Cl	3720
Directory Yellow Pages Orga	anization
	ages-Ameritech Publishing
Disability Plans-LTD Benfts R	
Discrimination Complaints-E	
12fl 722 N Brdy	237
12fl 722 N Brdy 12fl 722 N Brdy	2993
Distributed Computers Data S	bys
	599
Distribution Sup Svcs—	
801 N 35-	
Mail Label Info	2414
Publications (WB) 2nd Or	e Time Orders243
Documentation Coordinator	Sup Svcs 801 N 35 222
Drafting Adm Svcs-	
Engineering/Technical Dra	wing maps &
Charts 801N35 Or Call Toll Free-Dial '1' T	230
DSOC (Dist Svcs Oprns Ctr)	Dieth Succ
Madison-Janesville-Eau Cla	DISLO SVCS
R204 316 W Wash Mden	
R204 316 W Wash Mdsn Appleton 5fl 221 W Wash App	730-5010
Metro North 7721 W Fond du	lac Av
Metro South 3045 W Grange	Av 393-1414
E	ł
EAS Assistance (Executive A	dministration
System) Data Sys	
24 Hours Daily	
	464
EFAP (Employee And Family Brogram)	Assistance
Program) Corporate Coordinator	
Eau Claire	3352
Fox Valley	839-5830
Madison	
Milw	252-230
ESAC (Electronic Systems A	
Syce R103 918 N 26	3313Lante CIT/ Net 3404
EMERGENCY	3690
Eau Claire Residential Custo	mer Service
Center 304 S Dewey Eau Managers	839-568

Economic Development Pub Affrs	2660
Educational Programs Corp Comm	
13fl 722 N Brdy	6105
Emergency Operating Ctr Hdqtrs Net P&E	
24 Hours A Day	
7 Days A Week	
7 Days A week	
	3181
Employee Activities Pioneer Ofc	
R401 722 NBrdy	2446
Employee Booklets & Brochures Corp Com	
13fl 722 N Brdy	2526
Employee Location Information Net Sycs	
	6271
Employee Profile Data Base 5fl 722 NBrdy	7960
Employee Verification R267 845 N35th	
	092/
Employment Ofc Pers—	
Management Employment R101 722 NBrdy	3483
Regular Or Temporary Help	
Rm 105 845 N 35th	
Toll Free-Dial '1' & Then 800 9	24-3675
Engineering Resource Ctr	
3flN17 W24300 Riverwood Dr	523-8513
Environmental Staff 1-3	193-2950
Faual Employment Opportunity	
Equal Employment Opportunity Counselor Pers 12fl 722 NBrdy	2007
Counselor Pers 121/22 NBroy	2993
Exchange Carrier Relations External Affrs-	
7fl 722 N Brdy—	
Network Facility Projects Opr Svcs Bus Ofc WATS	2809
Opr Svcs Bus Ofc WATS	3036
Special Svcs	2365
Toll Settlements & CABS	3631
Expense Statement	5051
Inquiries-420's Acctg Oprns	4401
Inquines-420 S Accigopins	0001
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F	
FASC Administration R117845N35	6043
FCC Docket Management Information Rev	
FCC Docket Management Information Rev	
FCC Docket Management Information Rev	
FCC Docket Management Information Rev 9fl 722 NBrdy FCC Tariff Distribution Rev	
FCC Docket Management Information Rev 9f1722NBrdy FCC Tariff Distribution Rev FMAC (FAC Mtce & Adm Ctr) Net Svcs	3596 2253
FCC Docket Management Information Rev 9f1722NBrdy FCC Tariff Distribution Rev FMAC (FAC Mtce & Adm Ctr) Net Svcs	3596 2253
FCC Docket Management Information Rev 9fl722NBrdy FCC Tariff Distribution Rev FMAC (FAC Mtce & Adm Ctr) Net Svcs R205 918N26 Toll Free-Dial '1' & Then	3596 2253 893-2671
FCC Docket Management Information Rev 9/1722/BRdy FCC Tariff Distribution Rev FMAC (FAC Micce & Adm Ctr) Net Svcs R205 918 N26 Toll Free-Dial '1' & Then FA Personal Code Cards ASCG1845N35	3596 2253 893-2671
FCC Docket Management Information Rev 9ft72218rdy	3596 2253 893-2671 6056
FCC Docket Management Information Rev 9/1722/BRdy FCC Tariff Distribution Rev FMAC (FAC Mtcc & Adm Ctr) NetSvcs R205 918 N26 Toll Free-Dial '1' & Then FA Personal Code Cards ASC 61 845 N35 Factsmile Assistance Adm Svcs— Factsmile Merdy	3596 2253 393-2671 6056 2065
FCC Docket Management Information Rev 9f1722NBrdy	
FCC Docket Management Information Rev 91722188rdy FCC Tariff Distribution Rev FMAC (FAC Mtce & Adm Ctr) Net Svcs R205 918 N26 Toil Free-Dial '1' & Then FA Personal Code Cards ASCG1 845 N35 Facsimile Assistance Adm Svcs— 31/722 N8rdy Or Call Toil Free-Dial '1' & Then facsimile Transmissions	3596 2253 393-2671 6056 2065 393-2065 6319
FCC Docket Management Information Rev 9/1722/BRdy FCC Tariff Distribution Rev FMAC (FAC Mtcc & Adm Ctr) NetSvcs R205 918 N26 Toll Free-Dial '1' & Then FA Personal Code Cards ASC 61 845 N35 Factsmile Assistance Adm Svcs— Factsmile Merdy	3596 2253 393-2671 6056 2065 393-2065 6319
FCC Docket Management Information Rev 9/1722 NBrdy FCC Tariff Distribution Rev FMAC (FAC Mtce & Adm Ctr) NetSvcs R205 918 N26 Toll Free-Dial '1' & Then FA Personal Code Cards ASC 61 845 N35 Facsimile Assistance Adm Svcs Or Call Toll Free-Dial '1' & Then Facsimile Transmissions	3596 2253 393-2671 6056 2065 393-2065 6319
FCC Docket Management Information Rev 9172218 Brdy FCC Tariff Distribution Rev FMAC (FAC Mtce & Adm Ctr) Net Svcs R205 918 N26 Toll Free-Dial '1' & Then FA Personal Code Cards ASC G1 845 N35 Facsimile Assistance Adm Svcs— 31722 N8rdy Or Call Toll Free-Dial '1' & Then Facsimile Transmissions Facsimile Directories To Order Call Toll	
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FCC Docket Management Information Rev 91722/Brdy FCC Tariff Distribution Rev RAC (FAC Mtoc & Adm Ctr) NetSvcs R205918N26 Toll Free-Dial '1' & Then 31722/Brdy Or Call Toll Free-Dial '1' & Then Facsimile Assistance Adm Svcs- 31722/Brdy Or Call Toll Free-Dial '1' & Then Facsimile Directories To Order Call Toll Free-Dial '1' & Then Facsimile Directories To Order Call Toll Free-Dial '1' & Then Facsimile Directories To Order Call Toll Free-Dial '1' & Then Facsimile Directories To Order Call Sol Facsimile Directories To Order Call Sol Facismile Directories To Order Call Toll Free-Dial '1' & Then Sol Strain Strain Sol Field Assistance Bureau-CPC/SS NetSS FAB Inquiries 21N17/W24300 RiverwoodDr Wksh Scts Info- Actance Payments	
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FCC Docket Management Information Rev 91722/BRdy FCC Tariff Distribution Rev FMAC (FAC Mtce & Adm Ctr) Net Svcs R205 918 N26 Toll Free-Dial '1' & Then FA Personal Code Card& ASCG1 845 N35 Facsimile Assistance Adm Svcs— 31722 NBrdy Or Call Toll Free-Dial '1' & Then Facsimile Transmissions Facsimile Transmissions Facsi	
FCC Docket Management Information Rev 91722/BRdy FCC Tariff Distribution Rev FMAC (FAC Mtce & Adm Ctr) Net Svcs R205 918 N26 Toil Free-Dial '1' & Then FA Personal Code Cards ASCG1 845 N35 Facsimile Assistance Adm Svcs— 31722 N8rdy Or Call Toil Free-Dial '1' & Then Facsimile Directories To Order Call Toil Free-Dial '1' & Then Fairway Residential Customer Service Center 405 Fairway Brktid Toil Free-Dial '1' & Then State Call Statence Bureau-CPC/SS Net SS FAB Inquiries 21N17 V24330 08/rerwoodDr Wksh Accts Info— Acts Info— Advance Payments Collection Report Deposits Instalment Billing	
FCC Docket Management Information Rev 91722/BRdy FCC Tariff Distribution Rev FMAC (FAC Mtce & Adm Ctr) Net Svcs R205 918 N26 Toil Free-Dial '1' & Then FA Personal Code Cards ASCG1 845 N35 Facsimile Assistance Adm Svcs— 31722 N8rdy Or Call Toil Free-Dial '1' & Then Facsimile Directories To Order Call Toil Free-Dial '1' & Then Facsimile Directories To Order Call Toil Free-Dial '1' & Then Facsimile Directories To Order Call Toil Free-Dial '1' & Then Facsimile Directories To Order Service Center 405 Fairway Brktid Toil Free-Dial '1' & Then Field Assistance Bureau-CPC/SS Net SS FAB Inquiries 21N17 V24330 08/rerwoodDr Wksh Accts Info— Acts Info— Advance Payments Collection Report Deposits Deposits Instalment Billing	
FCC Docket Management Information Rev 91722/BRdy FCC Tariff Distribution Rev FAAC (FAC Mtce & Adm Ctr) Net Svcs Ra205 918 N26 Toll Free-Dial '1' & Then Facsimile Assistance Adm Svcs 31722 N8rdy Or Call Toll Free-Dial '1' & Then Facsimile Directories To Order Call Toll Free-Dial '1' & Then Fairway Reidential Customer Service Center 405 Fairway Britid Toll Free-Dial '1' & Then Stal Inquiries 21111 / W24300 Riverwood Dr Wksh Accts Info- Advance Payments Collection Report Deposits Installment Billing NSF	
FCC Docket Management Information Rev 91722/BRdy FCC Tarlff Distribution Rev FMAC (FAC Mtce & Adm Ctr) Net Svcs R205918N26 Toll Free-Dial '1' & Then FA Personal Code Cards ASCG1845N35 Facsimile Assistance Adm Svcs— 31/722N8rdy Or Call Toll Free-Dial '1' & Then Facsimile Directories To Order Call Toll Free-Dial '1' & Then Facsimile Directories To Order Call Toll Free-Dial '1' & Then Center 405 Fairway Rkfld Toll Free-Dial '1' & Then Center 405 Fairway Rkfld Toll Free-Dial '1' & Then Stance Bureau-CPC/SS Net SS FAB Inquiries 21N17 V24300 RiverwoodDr Wish— Acts Info— Advance Payments Collection Report Deposits Installment Billing NSF Financial Research Acctg Opms	
FCC Docket Management Information Rev 91722/BRdy FCC Tarlff Distribution Rev FMAC (FAC Mtce & Adm Ctr) Net Svcs R205918N26 Toll Free-Dial '1' & Then FA Personal Code Cards ASCG1845N35 Facsimile Assistance Adm Svcs— 31/722N8rdy Or Call Toll Free-Dial '1' & Then Facsimile Directories To Order Call Toll Free-Dial '1' & Then Facsimile Directories To Order Call Toll Free-Dial '1' & Then Center 405 Fairway Rkfld Toll Free-Dial '1' & Then Center 405 Fairway Rkfld Toll Free-Dial '1' & Then Stance Bureau-CPC/SS Net SS FAB Inquiries 21N17 V24300 RiverwoodDr Wish— Acts Info— Advance Payments Collection Report Deposits Installment Billing NSF Financial Research Acctg Opms	
FCC Docket Management Information Rev 91722/BRdy FCC Tarlff Distribution Rev FMAC (FAC Mtce & Adm Ctr) Net Svcs R205918N26 Toll Free-Dial '1' & Then FA Personal Code Cards ASCG1845N35 Facsimile Assistance Adm Svcs— 31/722N8rdy Or Call Toll Free-Dial '1' & Then Facsimile Directories To Order Call Toll Free-Dial '1' & Then Facsimile Directories To Order Call Toll Free-Dial '1' & Then Center 405 Faivay Brkfd Toll Free-Dial '1' & Then Center 405 Faivay Brkfd Toll Free-Dial '1' & Then State Center 405 Faivay Brkfd Toll Free-Dial '1' & Then Center 405 Faivay Brkfd Toll Free-Dial '1' & Then Collection Report Deposits Installment Billing NSF Financial Research Acctg Opros Financing & Bank Opros Treas— Bank Lone & Corn Paner	
FCC Docket Management Information Rev 91722/BRdy FCC Tarlff Distribution Rev FMAC (FAC Mtce & Adm Ctr) Net Svcs R205918N26 Toll Free-Dial '1' & Then FA Personal Code Cards ASCG1845N35 Facsimile Assistance Adm Svcs— 31/722N8rdy Or Call Toll Free-Dial '1' & Then Facsimile Directories To Order Call Toll Free-Dial '1' & Then Facsimile Directories To Order Call Toll Free-Dial '1' & Then Center 405 Faivay Brkfd Toll Free-Dial '1' & Then Center 405 Faivay Brkfd Toll Free-Dial '1' & Then State Center 405 Faivay Brkfd Toll Free-Dial '1' & Then Center 405 Faivay Brkfd Toll Free-Dial '1' & Then Collection Report Deposits Installment Billing NSF Financial Research Acctg Opros Financing & Bank Opros Treas— Bank Lone & Corn Paner	
FCC Docket Management Information Rev 91722/BRdy FCC Tarlff Distribution Rev FMAC (FAC Mtce & Adm Ctr) Net Svcs R205918N26 Toll Free-Dial '1' & Then FA Personal Code Cards ASCG1845N35 Facsimile Assistance Adm Svcs— 31/722N8rdy Or Call Toll Free-Dial '1' & Then Facsimile Directories To Order Call Toll Free-Dial '1' & Then Facsimile Directories To Order Call Toll Free-Dial '1' & Then Center 405 Faivay Brkfd Toll Free-Dial '1' & Then Center 405 Faivay Brkfd Toll Free-Dial '1' & Then State Center 405 Faivay Brkfd Toll Free-Dial '1' & Then Center 405 Faivay Brkfd Toll Free-Dial '1' & Then Collection Report Deposits Installment Billing NSF Financial Research Acctg Opros Financing & Bank Opros Treas— Bank Lone & Corn Paner	
FCC Docket Management Information Rev 91722/BRdy FCC Tarlff Distribution Rev FMAC (FAC Mtce & Adm Ctr) Net Svcs R205918N26 Toll Free-Dial '1' & Then FA Personal Code Cards ASCG1845N35 Facsimile Assistance Adm Svcs— 31/722N8rdy Or Call Toll Free-Dial '1' & Then Facsimile Directories To Order Call Toll Free-Dial '1' & Then Facsimile Directories To Order Call Toll Free-Dial '1' & Then Center 405 Fairway Rkfld Toll Free-Dial '1' & Then Center 405 Fairway Rkfld Toll Free-Dial '1' & Then Stance Bureau-CPC/SS Net SS FAB Inquiries 21N17 V24300 RiverwoodDr Wish— Acts Info— Advance Payments Collection Report Deposits Installment Billing NSF Financial Research Acctg Opms	

DINING-FINANCING

General Services Section

FLOOR-INTERNAL

G	
Moves-Internal R150 722 NBrdy	2100
Furniture Moves & Transfers	
Clk	- 523-8571
3flN17 W24300 Riverwood Dr Wksh	- 523-8569
Used-Storage & Refurbishing	- 323-0308
3flN17W24300RiverwoodDr Wksh	- 523-8567
Budget-261C Capital	F02 0F47
Furniture & Ofc Eqpt Sup Svcs-	
442-444-445-447-638-871-873	- 449-0008
N 41st St Bidg	
383-384-643-645-647-671-672	- 672-0024
S 26th St Bidg	
933	- 344-0024
342-344-395-399-456-678-799-931-	
N 4th St Bidg 203-204-203-372-374-302 N 26th St Bidg	- 205-0024
N 4th St Bidg 263-264-265-372-374-562	
E Wis Av Bldg 691	. 691-0024
Wis Av Bldg 542-544-547-549	
Sussex 246	246-0022
Port Washington Bldg 284 301 W Grand Av Pt Wash	41.02
252-781-783	- 781-0024
Pilgrim Rd Bldg 251-255	- 251-0024
Park Place Bldg 359 11301 W Calumet Milw	- 359-0022
Oconomowoc Bidg 567-569	4318
Muskego Bidg 422-679	422-0024
Hartland 367-538-966	- 367-0024
Good Hope Rd Bidg 228-241-351-352	
Forest Home Av Bidg 425-529	
353-358-461-462-463-464-466-527	. 466-0024
Fond du Lac Av Bidg	70024
Fairway Dr Bldg 782-784-785-786	
321-327-541-543-545-546	- 543-0024
Cleveland Av Bldg 321-327-541-543-545-546	E42-0024
Cedarburg Bidg 243-375-377	- 3/7-0024
229-332-961-962-963-964	
E Capitol Dr Bldg	0/4 000 -
	273-0024
224-271-272-273-276-277-278-289-	
Brdy Bldg	
778	771-0024
257-258-259-453-475-476-771-774-	
Aetna Ct Bidg	
434 Orders Sup Sycs Frame Rooms-Service Orders Net Sycs-	2432
Forms Clerk Adm Svcs 801N35	
Company Forms 801N35 Or Call Toll Free-Dial '1' & Then	2713
Administration Control & Procurement Of	
Forms Adm Svcs-	
Rm 501 316 W Wash Mdsn	- 393-2403
Toll Free-Dial '1' & Then	
Foreign Exchange Cross Boundary Service	
Clk	523-8573
3flN17 W24300 Riverwood Dr Wksh	- 523-8572
Floor Space Reports Sup Sycs—	

Garage See Autom	otive Operations
General Bulletins Adm Svcs 3fl 722 NBrdy	4267
Government Relations Pub Affrs-	
Federal/State Madison	252-2621
Local	2545
Graphics Art & Composition Adm Svcs	
801 N35	
Or Call Toll Free-Dial '1' & Then	393-2608

SERVICES

Green Bay Residential Customer Service Center 205 S Jefferson Grn By-	B
Managers	
Toll Free-Dial '1' & Then	
Green Sheet Corp Com	
Group Life Benfts R1000 722 NBrdy	
Guard Sup Svcs	
722 N Brdy	2328
804 N Milw	289-1811
N15 W24250 Riverwood Dr Wksh	
N17W24300 Riverwood Dr Wksh	523-5016
918N26	
845N35	6169
316 W Washington—	
Mifflin	252-2551
W Washington	252-2406
221 W Wash Appl	

6

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Handicapped Services See Special Needs Center
Health Assessment Coordinator 678-4590
Health Insurance Plans Benfts
R1000 722 NBrdy 3065
Health Services—
Rm 1005 722 N Brdy 2092
Information & Appointments 2092
EFAP 3357
Disability 2093
Wellness 4817
Heart Sole 4650
Help Desk 4644
Or
Toll Free Dial '1' & Then 393-2744
Help Desk (Packet Switching)
See PNCC (Packet Network Control Ctr)
Hopkins Residential Customer Service
Center 7721 W Fond Du Lac Av-
Managers 535-5292
Toll Free-Dial '1' & Then 800 924-1000
House Services Sup Svcs-
Toll Free-Dial '1' & Then 393-2622
Or Call 797-1179
I

ID Cards Sec	curity 15fl 722 NBrdy	
ISSC Net Syc:		
Interfuncti	ional Special Service	5
Coordinati		-
R406 918	N26	
	ction Process Personn	
	o-Ordinator-Residen	
	t Company Relations	
independen		
		hange Carrier Relation
Independen	t Co Setti Reviews-C	Comptroller 355
Information	Bulletin	See Trend Bulleti
Information	Services Data Systems	s
845 N 35-	_	
Marketin	q Information System	ns
	Services Support (Di	
		433
		621
	ecords	
		See DBAC/dBA

	ERVICES	
Internal Financial Reports Acctg Opros	2076	ι
J		
Job Function Code Administration ASC-1B 845 N 35 Milw	6043	
Junior Achievement Corp Comm 13fl 722 NBrd	v 6105	
	,	
L		
Leaves Of Absence Benfts R1000 722 NBrdy	4471	
Legal Dept R1608 722 NBrdy	2129	
egislation Pub Affrs-		
Federal/State Madison	252-2621	
Liability Insurance Secy		
.obby Entrance Sup Sycs—	2331	
722 N Brdy	2328	
918N26	3291	
Parking Lot 845N35		
East 845 N 35	6633	
.cop Assignment Ctrs Distb Svcs—	735-3328	
Capital-316 W Wash Av Mdsn		
LAC—		
(414)		
245-248-279-472-473-563-674-72	B-	
763 (608) 882-883		
(000) 882-885	252.2014	
ESS	- 252-2810	
DPAC	- 252-2804	
MAC/LAC—		
(414)—		
261-262-567-569 (608)—		
221-222-231-233-238-241-244-246-		
249-251-252-255-256-257		
258-262-263-264-266-267-271-273-		
274-275-291-356-362-364-365-		
522-752-754-755-756-795-873-		
936		
(815)— 389		
	- 252-2033	
Or Toll Free-Dial '1' & Then 800	0 472-6414	
S O Receipt-Batch	- 252-2041	м
Fox Valley-221 W Wash Appl—		
Appleton Area—		
(414)— 532-566-582-721-722-725-727-729-		
731-733-734-735-738-739-757-		
766-779-788-982		
(715) 258-341-344-345-346		
RCC (Recent Change Ctr)		
	735-3063	
No Facs		
(715)—		
(715)— 232-235-239-273-373-386-392-394- 398-399-425-532-549-561-644- 682-723-726-742		
(715) 232-235-239-273-373-386-392-394- 398-399-425-532-549-561-644- 682-723-726-742 746-749-779-832-834-835-836-839-		
(715) 232-235-239-273-373-386-392-394- 398-399-425-532-549-561-644- 682-723-726-742 746-749-779-832-834-835-836-839- 893		
(715) 232-235-239-273-373-386-392-394- 398-399-425-532-549-561-644- 682-723-726-742 746-749-779-832-834-835-836-839-		

INTERNAL F-M
Continued From Last Column Loop Assignment Ctrs—
Green Bay Areas— (414)—
336-337-388-432-433-434-435-437- 465-468-469-487-494-497-498-499-
536-682-683-684-743-834-846 (715)—
582-732-735 735-3930
RCC (Recent Change Ctr) 735-3272 No Facs 433-4016
Oshkosh-Fond du Lac Area— (414)—
231-232-235-236-294-295-324-361- 386-387-424-426-452-457-458-459-
467-485 623-685-688-689-885-887-921-922-
923-929 735-3930
RCC (Recent Change Ctr) 735-3272 No Facs
Milwaukee Metro-
Skyline Area-7721 W Fond du Lac Av- 112-113-114-116-120-221-222-223-
224-225-226-227-229-256-257-258- 259-263-264-265-271-272-273-274-
276
277-278-287-289-291-332-342-344- 345-347-372-374-442-444-445-447-
449-453-456-471-475-476 562-575-678-765-771-774-778-799-
844-871-873-874-931-933-935-936-
937-961-962-963-964-976 Toll Free-Dial '1' & Then 393-2284
Moraine Area-7721 W Fond du Lac Av- 228-241-242-243-246-251-252-253-
255-284-334-338-351-352-353-354-
355-357-358-359-367-375-377 438-461-462-463-464-466-527-535-
538-628-673-675-677-781-783-966
Toll Free-Dial '1' & Then 393-2284 No Facs 535-5323
RCC (Recent Change Ctr)— 7721 W Fond du Lac Av
7721 W Fond du Lac Av 535-5305 Fax 535-5334
M
MAC/LAC DistbSvcs— 4fl 221 W Wash Appleton—
(414)—
566-721-722-725-727-729-730-731- 734-735-738-739
(715)— 735-3930
258-341-344-345-346-582-732-735
Asst Mar 735-3930

Asst Mgr 77 Asst Mgr 77 R304 316 W Wash Av Madison— (414)— 245-248-249-261-262-279-472-473-563-567-569-674-728-763 (608)— 221-222-231-233-238-241-244-246-249-251-252-255-256-257-258-262-263-264-266-267-271-273 274-275-356-362-364-365-522-752-754-756-757-795-873-882-883 Continued On Next Page ----- 735-3065

M A----MEDICAL Continued From Last Page MAC/LAC— R304 316 W Wash Av Madison— (715)— S U CIK ______2 Supv ______2 Metro South DSOC-3045 W Grange Av-____ Lakeshore-_____ Mitchell-281-282-382-383-384-421-423-456-481-482-483-643-645-647-649-671-672-744-747-761-764-768-760 ----- 252-2040 761-4001 681-694-697-835-859-878 886 Toll Free-Dial '1' & Then Waukesha-254-321-327-422-425-521-529-541-542-543-544-545-546-547-548-549-662-679-691-782-784-785-786 393-2286 792-796-797 Call ------- 761-4001 CPC/MAC Dist Svcs---N17 W24300 Riverwood Dr Wksh Toll Free-Dial '1' & Then ---393-3124 ----- 393-3---------- 523-8735 Tor Free-Jul 1's Inen ______ Or Cal ______ Milwaukee Metro-______ Skyline Area-7721 W Fond du Lac Av-_____ 112-113-114-116-120-221-222-223-224-225-226-227-229-256-257-258-259-263-264-265-271-272-273-274-276 259-263-264-265-271-272-273-2/4-276 277-278-287-289-291-332-342-344-345-347-372-374-442-444-445-447-449-453-456-471-475-476 562-575-678-765-771-774-778-799-844-871-873-874-931-933-935-936-937-961-962-963-964-976 Toll Free-Dial '1' & Then ________ 278-241-242-243-246-251-252-253-255-284-334-338-351-352-353-354 355-357-358-359-367-375-377 438-461-462-463-464-466-527-535-538-628-673-677-781-783-966 Toll Free-Dial '1' & Then ________ No Facs _______ --- 393-2284 --- 393-2284 South 3045 West Grange Av Milw ----------- 761-0987 ----- 761-4896 ----- 3940 ---- 935-6892 - 0178 -- 2519

SERVICES	8
MMOC	
See TNSC (Telecommunications Netwo Madison Business Sales & Service	ork Svc Ctr)
Ctr Sis Oprns 316 W Wash Mdsn	252-2077
Madison Residential Customer Service	
Center Rm 504 316 W Wash Mdsn— Managers	050 0110
Toll Free-Dial '1' & Then 80	0 924-1000
Mail Rooms Sup Sycs—	
Appleton 221 W Wash Av Appl	735-3310
Supv Clk	
Milwaukee—	- 232-2390
R110740NBrdy	2733
918N26	6085
R139 845 N 35 Oshkosh 315 Algoma Bivd Osh	6289
Waukesha N17 W24300 Riverwood Dr	523-8925
Mailing Label Information (RC And/Or	
	2414
Maintenance Engineering-Central Ofc Eqpt Net Sycs—	
Change Notices/Circuit Modifications	
Switching Eqpt & Power	3507
Major Action Corp Comm 13fl 722 NBrdy	6105
Management Employment Pers R101722NBrdy	2146
Management Job Evaluation Pers	21.10
12fl 722 N Brdy	2010
Management Relocation Pers 12fl722NBrdy	2010
Management Requisition Line—	6828
Or	
Toll Free-Dial '1' & Then 80	0 924-5000
Management Requisitions (EXTERNAL) 5fl 722 N Brdy	4963
Management Requisitions (INTERNAL)	
5fl 722 N Broadway Marketing Budgets Mktg 2fl 804 N Milw	0869
Marketing Budgets Mktg 2fl 804 N Milw Marketing Education Ctr Mktg—	2750
3rd Ft 17950 W Corporate Dr Brkfid	792-8226
3rd Fl 17950 W Corporate Dr Brkfld 3rd Fl 17950 W Corporate Dr Brkfld—	//1 0110
Computer RoomLibrary	- 792-8227
Marketing Locator Ctr Sis&Svc	- 792-8228
3fiEast 17950 W Corporate Dr Brkfid	792-8094
3flEast 17950 W Corporate Dr Brkfld Marketing Results Mktg 2fl 804 N Milw	2519
Marketing Support Data Sys—	
CRIS & MKIS Reports Microcomputer Support Helpline	- 789-3900
Marketing Technical Support	- 678-2489
Matching Gifts Corp Com—	
Forms 13fl 722 N Brdy	0065
Materials Management ASI—	2310
Cable Distribution/Transportation	
	3529
Cable Management 313 S Curtis Rd Distribution	3512
Milw—	
Day 313 S Curtis Rd	4458
Night 313 SCurtis Rd Eau Claire 930 Malden Ay Eau Cl	2870
Eau Claire 930 Malden Av Eau Cl Out Of Hours Contact CRASB	839-5577
	535-5068
Mechanization Help Line DataSys	
	6777
Medical Dept See Health Safety And Environmental	Protection
Medical Insurance Benfts R1000722NBrdy	

- 3211

-6123 3211 ----- 678-2380 -0612

> 2372 ----- 3511 -- 393-3511

SERVICES 9 9 SERVICES Message Investigation Ctr Net Svcs 315 Algoma Bivd Osh 236-5510 Message Processing & Ind Co Settlements Acctg Opms 315 Algoma Bivd Osh ALM Chirl Desk 4327 4328 AMA Chirl Desk 4328 4328 MAR Celipt 4328 4328 Ind Co Settlement 4008 4328 Manual Messages 6565 5655 Micro Computers Data Sys See Empl Profile Data Base 801 N 35 Microfilm-Fiche Adm Svcs 3995 3216 1 ¢ 0 ¢ C ¢ Toll Free-Dial '1' & Then-----Milw Residence Marketing Center Mktg 405 Fairway Dr Brkfid Minicomputer ---- 800 924-2000 0 Mobile Kadio Mtce Channels (Official Svc Only) Net Svs--Appleton 2601 W 2 Appl-Eau Claire 301 Malden Av Eau Cl-Mikwaukee-Waukesha-West Bend-Lake Geneva RADCOM (Contract) --------Motor Pool Reservations 0 ----- 735-3807 ----- 839-5582 o ---- 771-6900 See Automotive Operations Motor Vehicles ------- See Automotive Operations Ν NCC Data Sys— Data Network Operations-Pewaukee N15 W24250 Riverwood Dr Wksh------Data Network Operations-Howell 7737 Showell Av 7639 0507 4644 --- 3332 4644

R314918N26 Network Operations Planning Ctr (NOPC) Data Sys R430 740 NBrdy Network Service Center NetSvcs R314918N26 New Product Development Marketing New Product Support Data Sys N15 W24250 Bellor Wish News Line Concom-

Notary Public Secy-	
R1600 722 N Brdy	3196
R1608 722 N Brdy	
Number List Service SIs & Svc	
Number Services Support Information Services	
Off Tel Dir White Pages 911	4333
0	
Occasional/Temporary Services Employees 3(1) 7 W24300 Riverwood Dr. Wksh	
Or Call Toll Free-Dial '1' & Then	- 523-8506
Occupational Health Care/Worker's Comp -	- 393-1942
Office Equipment ASI	
1flN17 W24300 Riverwood Dr Wksh	523-7941
Office Supplies & Stationery ASI 1flN17 W24300 Riverwood Dr Wksh	F00 7010
Official Communications Services Info Sycs-	
N15 W24250 Riverwood Dr Wksh	-
Voice	
Business Office	4010
Or Toll Free-Dial '1' & Then	
Data	393-2000
Network	FOOF
Workstations	
Ordertyping-Business Sis&Svcs—	
Milw 12ft 633 W Wis Av	0776
Mdsn R404 316 W Wash Av	252-3407
Ordertyping-Residence Sis & Svc—	- 232-207/
Appl 3fl 221 W Wash Av	775-2204
Eau Claire 314 SDewey	920-5429
Green Bay Se	- 039-3020
Hopkins 7721 W Fond du Lac Av	
Mdsn Rm503 316 W Wash Av	
Summit 2745 S13	
Orderwriting-Business Sis Onros-	
Milw 12fl 633 W Wis Av	
Mdsn R602 316 W Wash Av	
OSPE-Design Centers-	202 2077
Capital—	
Eau Claire	- 839-5800
Janesville	- 755-5600
Madison	- 252-2750
Fox Valley—	
Appleton	- 735-3240
Fond du Lac	- 929-1000
Green Bay	- 433-4100
Metro North-	
Moraine	
Skyline	
Metro South—	
S13St	3477
Racine	
Waukesha	
Р	
PICS	
Actuation—	

Actuation—	
Eau Claire/Madison	- 523-8719
Fox Valley	- 523-8720
Milwaukee/Racine	- 523-8720
Non-Emergency After 4:00 PM	- 523-8945
Emergency Contacts (Out-Of-Service	
Conditions)	
Evenings Weekends & Holidays—	
Surveillance Center	
Toll Free-Dial '1' & Then	- 393-2447
PSC Of Wis Tariff Distribution Rev	2601

MESSAGE-P

PACKETING-R

Packeting Switching See PNCC (Packet Network Co	ontrol Ctr
Partnership Schools 13fl 722 N Brdy	6105
Pay & Time Acctg Meth ASC G1 845 N 35	5271
Paycheck Distribution Treas	
Payment Centers—	
(Capitol Court) 5500 W Capitol Dr	2969
801N35	
316 W Wash Mdsn	252-2146
Payroll Allotments— R267 845 N 35—	
Credit Union	
Direct Deposit	2355
Employee Change Report (ECR)	
Group Life Ins	6661
Management Savings Plan	6661
Non-Management Savings Plan	6661
Savings Bonds	2951
Tax Cards	2355
Payroll Preparation—	
R261 845 N 35—	
Check Processing	6573
Or	0177
Or	
Or	6240
MITRE	
Report Distribution	
Pension Info See Be	
Personal Computers Data Sys-	inem ore
Acquisition N15 W24250 Riverwood Dr Wksh	5005
Support N15 W24250 Riverwood Dr Wksh	
Software Acquisition	
N15 W24250 Riverwood Dr Wksh	FOOF
Training 2fl733 N Van Buren	
Photo Service Adm Svcs 801N35	2214
Pioneer Ofc R401 722 NBrdy	3210
Placement Bureau-	2518
	4338
Associate Information Resource-Line—	4330
(AIR-LINE) Milwaukee	0445
Toll Free-Dial '1' & Then 800 9	2045
Question Line	/24-3304
	2648
Milwaukee 800 9 Toll Free-Dial '1' & Then 800 9	
	24-3376
NCC (Packet Network Control Ctr) Net	
Svcs—	
R116918N26	
Toll Free-Dial '1' & Then 3	593-1234
ole Location Record Acctg Opras	
R280b845N35	6379
Political Action Committee (PAC) Pub Affrs	
R310 740 NBrdy	2545
Practices-Catalogs-Handbooks Sup Svcs	
801N35	
ress Update/Clips 13fl 722 N Brdy	3635
Printing Services Adm Svcs—	
801 N 35-	
In-House Prtg	
Or Call Toll Free-Dial '1' & Then 3	93-2679
Purchasing ASI	1513
roduct Evaluation ASI	
	23-7906
1 fIN17 W24300 Riverwood Dr. Wksh 5	
1flN17W24300RiverwoodDr Wksh5 Production Control-Data Processing	
Production Control-Data Processing Jobs Data Sys R221 845 N 35	4666
Production Control-Data Processing Jobs Data Sys R221 845 N 35 Program Bookings Corp Com 13f1722 N Brdy	4666 2013
Production Control-Data Processing Jobs DataSys R221.845 N35 Program Bookings Corp Com 13fl 722 NBrdy Property & Cost Methods Acctg Opris	2013
Production Control-Data Processing Jobs DataSys R221 845 N 35 Program Bookings Corp Com 13/1722 NBrdy Property & Cost Methods Acctg Opris Accounts Payable Methods	2013 6769
Production Control-Data Processing Jobs DataSys R221.845 N35 Program Bookings Corp Com 13fl 722 NBrdy Property & Cost Methods Acctg Opris	2013 6769 5561

SERVICES 10
Property & Cost Operations Acctg Oprns-
Corp Acctg Process Cntrl 6662
Cost Acctg 6502
Estimates & KCJO's6367
Key Entry6662
Property Records6583
Vouchers
W-1 (Invoice Unit)6583
Public Affairs (Government Relations)-
Federal/State Madison 252-2621
Local 2545
Public Communications—
intra-Co 2420 Kossow Rd Wksh 549-7208
Or Call Toll Free-Dial '1' & Then 800 924-2772
Public Telephone Installation &
Maintenance Ctr 549-7220
Public Eye-
Intra-Co 2420 Kossow Rd Wksh 549-7220
Or Call Toll Free-Dial '1' & Then 393-2600
Public Relations See Corporate Communications
Public Suggestions Analysis
Coordinator Corp Affrs 12fl 722 NBrdy 4138
Publications (WB)-One-Time Orders Sup Sycs
801 N 35 2432
Pulse Measurement—
Large & Major Bus4136
Res & Gen Bus/X-Carrier2701
Purchasing ASI
General Information 523-7929
Order Processing 523-7921
0
Q

Quality Assurance ASI	
1fIN17 W24300 Riverwood Dr Wksh5	
	23-7902
Quality Of Work Life Pers-	
QWL Coordinator 12fl 722 NBrdy Milw	
Toll Free-Dial '1' & Then 3	
QWL Facilitator 12fl 722 NBrdy Milw	
Toll Free-Dial '1' & Then 3	93-3689
QWL Facilitator 205 S Jefferson Grn By 4	33-4195
Toll Free-Dial '1' & Then 3	
QWL Facilitator 316 W Wash Av Mdsn 608 2	52-1281
Toll Free-Dial '1' & Then 3	
QWL Facilitator 12fir 722n Brdy	
Toll Free-Dial '1' & Then 3	
QUEST Award Administrator Personal	93-2773
	4120
12fl 722 N Brdy	4138
Quick Copy Adm Svcs-	
Mezzanine 740 NBrdy	
N17 W24300 Riverwood Dr 5	
R135845N35	4288
R	

RC Administration—

<u>11</u>	SERVICES	
Continued From Last Page		
RCC (Recent Change Ctr)-		RCC (Re
4fl 221 W Wash Appleton—		Metro
(414) Oshkosh-Fond du Lac Area		3045
	735-3272	(41
(715)—		25
232-235-239-273-373-386-392-394-		_
398-399-425-532-549-561-644-68	2-	
723-726-742-746-749-779		54
832-834-835-836-839-893		
Eau Claire	- 839-5772	
Or Call Toll Free-Dial '1' & Then 80	0 472-6669	
R304 316 W Wash Av Madison		66
(414) 567-569		00
(608)-241-244-249-262-253-264-266-		
267		85
	- 252-2114	Ba Fa
Or Call Toll Free-Dial '1' & Then	- 393-2114	
(414) 248		Radio M
(608) 271-273-274-362-364-365		Radio S
(815) 389		READY
	- 252 - 2145	Real Est
So Beloit III Field Asst	362-2092	Records
Or Call Toll Free-Dial '1' & Then	- 393-2115	Milw 3
(414) 245-279		Out-O
(608) 882-883		Or Cal
(715)-239-392-394-532-644-682-723-		Records
726		Corpor
	- 252-4650	Retent
Or Call Toll Free-Dial '1' & Then	- 393-2118	801 N
(608) 231-233-238-873		Refunds
(715) 386-549-749		Registra
	- 252-2139	2ND F
Or Call Toll Free-Dial '1' & Then	- 393 - 2117	Regulate
(608)—		Remote
221-222-251-252-255-256-257-752-		R152
754-755-756	- 252-2802	Repair S
Or Call Toll Free-Dial '1' & Then		S
Information Questions	- 393-2110	_
Supv	- 232-2/0/	Reserva
Metro North Service Area—	- 232-2000	Airline
7721 W Fond du Lac Av Milw-		Call Co
(414) Skyline Area-		Or Call
112-113-114-116-120-221-222-223-		24 Hou
224-225-226-227-229-256-257-		'1' & 1
258-259-263-264-265-271-272		Residen
273-274-276-277-278-287-289-291-		4fi 80
332-342-344-345-347-372-374-		Residen
442-444-445-447-449-453-456-		Course
471-475-476		Trainin
562-575-678-765-771-774-778-799-		Resident
844-871-873-874-931-933-935-		Reside
936-937-961-962-963-964-976		Appl
(414) Moraine Service Area—		Eau C
228-241-242-243-246-251-252-255-		Fairwa
284-334-338-351-352-353-354-		Greer
355-357-358-359-367-375-377		Ba
438-461-462-463-464-466-527-535-		Hopki
538-628-673-675-677-781-783-		Mi
966		Madis
Manager RCC	678-4151	Sumn
RCC	535-5305	Busine
Toll Free-Dial '1' & Then	393-2443	Madis
Order Coordination	- 535-5306	Milw
Fax	- 535-5334	Results S

Continued On Next Column

R C—RIGI	IT
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-E2	RC RC	KIGHI
	Continued From Last Column	
	RCC (Recent Change Ctr)-	
	Metro South District-	
	3045 West Grange Av Milw-	
72	(414)—	
	254-281-282-321-327-382-383-384-	
	421-422-423-425-481-482-483-	
	521-529-541	
	543-544-545-546-547-548-549-551-	
	552-553-554-631-632-636-637-	
72	639-643-645-647-649-652-654-	
59	656-657-658	
	662-671-672-679-681-691-694-697-	
	744-747-761-762-764-768-769-	
	782-784-785-786-789-792-796	
		761-0987
4	Fax	761-4896
14	Radio Mtce Net Svcs R205 918 N 26	6628
	Radio Surveillance Net Svcs R205 918 N26	3316
	READY TECH 2400 Kossow Rd Wksh	- 797-1244
15	Real Estate Taxes Secy R1600 722 NBrdy	
15 72	Records Ctrs Adm Svcs-	
72 15	Milw 3281 N 41	
13	Out-Of-Hrs Emergency Call	
	Or Call Toll Free-Dial '1' & Then	393-2271
	Records Mamt Adm Sycs	
	Corporate Records/Forms	
50	Retention/Destruction-CFI	
18	801 N 35	
	Registration-Information Center Classes	••••
19		6838
17	Regulatory Appeals Pub R 13fl 722 NBrdy	
	Remote Computer Svcs Coord Data Sys	2000
		5750
	Repair Svcs	
2	See Centralized Repair Svc & Attenda	nt Bureau
L6	••••••••	(CRSAB)
)7	Reservations-Travel Agcy—	
60	Airline, Hotel, Auto	
	Call Collect	453-7381
	Or Call Toll Free-Dial '1' & Then 800	
	24 Hour Emergency Service Toll Free-Dial	
	'1' & Then 800	847-4282
	Residence Incentive Co-Ordinator	
	4fl 804 N Milw	4676
	Residence Training Mktg-	
	Course Development 6fl 740 NBrdy	
	Training Ctr 2400 Kossow Rd Wksh	797-1397
	Residential Customer Service Centers-	
	Residence—	
	Appl RCSC 221 W Wash Apple	735-3344
	Eau Claire RCSC 304 S Dewey Eau Claire	
	Fairway RCSC 405 Fairway Dr Brkfld	
	Green Bay RCSC 205 S Jefferson Green	
		433-4041
	Hopkins RCSC 7721 W Fond du Lac Av	
		535-5292
	Madison RCSC R504 316 W Wash Mdsn	
1		7826
5	Business—	
3	Madison R404 316 W Wash Mdsn	252-2077
6	Milw 12fl 633 W Wis Av	
4	Results Secy 15#722NBrdy	2331
	Right Of Way Matters Distb Svcs 7fl 722 NBrdy	

SERVICES

S-SURVEILLANCE

s	
SCC (Switching Control Centers) Net Svcs-	-
Eau Claire 304 S Dewey Eau Cl	
East 6fl 221 W Wash Appl West 6fl 221 W Wash Appl	735-3471
West 6fl 221 W Wash Appl	735-3895
Madison R804 316 W Wash Av Mdsn	252-2760
Milw Metro No R313918N26	3980
Racine Metro So 411 7th Rac	636-0620
Out Of Hours All Locations	3980
SORD Helpine Data Sys 6fl 740 N Brdy	6777
Pwr Ind Svc Spec Svcs	
Appi Toll Free-Dial '1' & Then 8	00 852-8461
Mdsn Toll Free Diel UV & Theo	
Toll Free-Dial '1' & Then8 Milw	00 362-3969 678-0886
SSC Net Svcs—	0/8-0660
R310 918 N 26 Milw—	
Mtce	0602
Prov-Access Prov-Traditional	
Prov-Traditional	0697
Dispatch	344-0034
Admin	0332
4fi 221 W Wash Appl Mtce Toll Free-Dial '1' & Then	202 2214
Prov Toll Free-Dial '1' & Then	393-3314
R401 316 W Wash Mdsn—	
Mtce Prov-Northwest LATA	252-2601
Prov-Northwest LATA	252-2631
SUMIT	678-4614
Safety & Enviromental Protection	
Lwr Level N17 W24300 Riverwood Dr Wksh	523-1774
Sale Of Wire/Quick Quotes Distb Svcs	
7721 W Fond du Lac Av	778-3130
Savings Plans-Call Amer Transtech	
Savings Plans-Call Amer Transtech Toll Free-Dial '1' & Then	00 248-2411
Schlage Cards Security 15fl 722NBrdy Scholar Program CorpComm 13fl 722NBrdy	3415
Scrap Disposition ASI	0105
1fiN17 W24300 Riverwood Dr Wksh	523-7011
SEC Report Preparation Acctg Oprins	
Security Offices—	
24 Hour Answering Service	
Daily Weekends & Holidays	
Milwaukee 15fl722NBrdy	3415
Self Study Office	
See Training Center 2400Ko Service Club Memberships Corp Com	
	2594
Service Codes & Rates Distribution Rev	4750
Service Credit Benfts R1000722NBrdy Service Manager Adm Svcs	
R150 722 N Brdy	2885
Airline Ticket Distribution	2885
Airline Ticket Distribution Audio Visual	2936
Motor Pool Reservations Toll Free-Dial 1	2887
& Then	
Moves-Internal	
Moves-Internal Supv Clerk	2083
Travel Agency Travel Complaints	453-7381
Travel Complaints	3613
Or Call Toll Free-Dial '1' & Then	393-2885

Service Order Interfaces Bus/Res/IDP Data Sys	
R22 845 N 35-	
ABCS-Credit Cards (CCSS)	6048
ABCS Data Management	6048
ARSB-Host	4931
Bad Debt	4931
Brookfield Cable (Bus Sys)	6048
CISR	6048
COGS	6048
CONVRTBO	4931
CRIS Sale	4931
DENS	4931
Equal Access	4031
LEIS	6048
MAC/SORD	
MAC In House	6446
Mech Brochure	4931
MMS	6446
Netman	
Oshkosh Toll Error Corr	4931
SCP	
SOI/APL	6048
SORCES	6048
SORD-TIRKS	6048
Telstore TPRS	4931
Or Call Systems Analyst	6210
Service Recognition Prgm Benfts	0210
R1000722NBrdy	3065
Shuttle Bus Sup Sycs-	
722 NBrdy	2733
845 N 35	6289
Sickness Benefits Benfts R1000 722 NBrdy	3062
Sickness Disability Coordinator	0/0-3110
SORD Help Line Data Sys 6fl 740 NBrdy	6777
Space Planning 3fiN17 W24300 Riverwood Dr Wksh	
Speakers Corp Com 13fl 722 N Brdy	2012
Special Needs Center (SNC) Sis Opros	2013
R105 740 NBrdy	2130
Sponsorships Corp Comm 13fl 722 NBrdy	
Stationery Supply Service ASI	
1flN17 W24300 Riverwood Dr Wksh	523-7910
Statistical Studies & Sampling Acctg Oprns	2819
Status Of Svc/Eqpt Requests-Corp Data	
Svcs Data Sys N15 W24250 Bell Dr Wksh	5995
Stock Inquiries Treas	
Stock Transfer Assistance R5845N35 Individual Acct Info	2631
Toll Free-Dial '1' & Then 800)	
Street Address Directory Rental Sis&Svc	233-1342
14 22E CEuro De Palvila	797-1044
Student Toll 8501 316 W Wash Av Mdsn	,,,,
Student Toll R501 316 W Wash Av Mdsn Toll Free-Dial '1' & Then 800 '	924-6988
Suggestions-Idea Connection	
Process Personni ASC 12 722 NBrdy	4332
Summit Residential Customer Service	
Center 2745 S 13—	
Managers Toll Free-Dial '1' & Then 800 '	7826
Toll Free-Dial '1' & Then 800	924-1000
Supervisor's Reference Guide Pers	
	2049
Support Ctr Help-Line Data Sys R160 845 N 35 Surveillance Center Dist Sycs	/832
7721 W Fond Du Lac Av Milw	202-24/7
// LI TT FUNULULULULAL AV WINW	373-244/

12

<u>13 SEI</u>	RVICES	
Switch Rooms Net Sycs-		Taxes Secy-
N 2nd Av Bidg 377	6110	Real Estate
N 4th St Bidg 263-264-265-372-374-562	6110	R1600722
N 26th St Bldg 222-342-344-638-678-799-931-933-		Taxes Asst Co Federal Inco
	6002	State Incom
S 26th St Bidg	0002	Sales Use &
383-384-643-645-647-671-672	6002	Other
N 41st St Bidg		Technical Info
442-444-445-447-638-871-873	6110	Svcs
Aetna Ct Bidg		Bellcore, AT
257-258-453-475-476-771-774-778	6002	Telecommun
Brdy Bidg 224-271-272-273-276 278-289-347-395-765-888	(110	(Practices, D
E Capitol Dr Bldg 332-961-962-963-964	6110	Bellcore And Documentati
Cleveland Av Bidg 321-327-541-543-545 -		BCR/System
County Line Rd Bldg 242-354-355	6110	Technical Sup
Fairway Dr Bldg 782-784-785-786-Tandem	1	7737 SHowe
	6002	Telco Credit U
Fond du Lac Av Bidg		Telecommunic
353-461-462-463-464-466	6110	See TNS
Forest Home Av Bidg 425-529	6002	Telemarketing
Good Hope Rd Bldg 241-351-352	6110	1fl17950W
Hartford 673	6110	Telephone Pio
Howell Av Bidg 762-764-768	6002	Telephone Sei
Jackson 677	6110	Temporary/Oc
Jackson 677		3fiN17 W24
Newburg 675	6110	Or Call Toll F
Oconomowoc 567-569	6110	Terminal
Pewaukee 679	6002	Acquisition,
Pilgrim Rd Bldg 251-252-255-781-783	6110	Sys N15 W24
Port Washington 284	6110	Timeshare Co
Sussex 246	6110	5fl 722 N Brdy
Wis Av Bidg 542-544-547-549		TIRKS Adm Ne 2 FIN17 W24
E Wis Av Bldg 691	6002	Tracing Record
Switching Control Centers Net Sycs—		Training Hmn Rs
Eau Claire 304 S Dewey Eau Cl	839-5504	Training And
Fox Valley—		2400 Kosso
East 6fl 221 W Wash Appl	735-3471	Milw Area
Madison R804 316 W Wash Av Mdsn	/35-3895	Outside M
Milw Metro No R313 918 N26	252-2/60	Belicore TE
Milw Metro So R32918N26		Milw Area Outside M
Racine Metro So 411 7th Rac	636-0620	Correspond
Out Of Hours All Locations		Milw Area
System Letters See Bellco	re Letters	Outside M
		Meeting/Co
т		Milw Area
		Outside M
T-Carrier Net S S R205 918 N 26	6725	Out-Of-Con
TASC Ctr NetS S 24 hrs R313 918 N 26	2836	Milw Area
TIRM Coordinator Admin Svcs 801N35	2225	Outside M Ready Tech
TNSC (Telecommunications Network Svc Ctr))	Self Study (
Net SS-	,	Milw Area
918 N26		Outside M
Computer Room	0151	Toll Free-
MMOC	0151	Training & I
Maintenance R101	6027	Registrat
Operations R114	0151	Milw Area
Technical Support R101 Toll Free-Dial '1' & Then	6190	Outside M
Toriff Distribution Rev	393-1867	Transition Man R403918N2
	2252	R403 918 N 2 Travel Arrange
	2233	
FCC		
FCC	2601	Airline, Hotel
FCC	2810	Airline, Hotel

Real Estate & Special Assessments
R1600 722 N Brdy 3233
Taxes Asst Comptroller— Federal Income — 2342
Federal income2342
State Income
Other2169
Technical Information Coordination Admin
Svcs
Bellcore, AT&T
Telecommunications Vendors Documentation
(Practices, Drawings, References, Etc)
Bellcore And Bell System Letters Documentation 801 N 35
Documentation 801N353466
BCR/System Letters 801N35 2567
Technical Support-Howell Data Ctr Data Sys
7737 SHowell Av
Telco Credit Unions See Credit Unions
Telecommunications Network Svc Ctr
See TNSC (Telecommunications Network Svc Ctr)
Telemarketing Ctr Sk Opros
1fi 17950 W Corporate Dr Brkfid 792-8411
Telephone Pioneers Ofc R401722NBrdy 2518
Telephone Service
See Offical Communications Services
Temporary/Occasional Services Employees
3f(N) 7 W24300 Piverwood Dr. Wksh
3fiN17 W24300 Riverwood Dr Wksh
Terminal
Acquisition/Movement/Replacement Data
Sys N15 W24250 Bell Dr Wksh 5995
Timeshare Coordinator Data Sys
5fl 722 N Brdwy 2829
TIRKS Adm Net Svcs
2 FIN17 W24300 Riverwood Dr Wksh 523-8830
Tracing Records & File Adm Svcs 801N35 2219
Training Hmn Rsrcs-
Training And Development Center—
2400 Kossow Rd Wksh—
2400 Kossow Rd Wksh— Milw Area 797-1300
2400 Kossow Rd Wksh— Milw Area 797-1300 Outside Milw Toll Free-Dial '1' & Then - 393-1300
2400 Kossow Rd Wksh— Milw Area — 797-1300 Outside Milw Toll Free-Dial '1' & Then - 393-1300 Belkcore TEC Registration—
2400 Kossow Rd Wksh— Milw Area — 797-1300 Outside Milw Toll Free-Dial '1' & Then - 393-1300 Belicore TEC Registration— Milw Area — 797-1372
2400 Kossow Rd Wksh- Milw Area
2400 Kossow Rd Wksh— Miłw Area — 797-1300 Outside Milw Toll Free-Dial '1' & Then - 393-1300 Belicore TEC Registration— Milw Area — 797-1372 Outside Milw Toll Free-Dial '1' & Then - 393-1372 Correspondence Courses—
2400 Kossow Rd Wksh- Milw Area
2400 Kossow Rd Wksh- Milw Area
2400 Kossow Rd Wksh— Miłw Area — 797-1300 Outside Milw Toll Free-Dial '1' & Then - 393-1300 Belicore TEC Registration— Milw Area — 797-1372 Outside Milw Toll Free-Dial '1' & Then - 393-1372 Correspondence Courses—
2400 Kossow Rd Wksh— Miłw Area797-1300 Outside Milw Toll Free-Dial '1' & Then - 393-1300 Belicore TEC Registration— Milw Area797-1372 Outside Milw Toll Free-Dial '1' & Then - 393-1372 Correspondence Courses— Milw Area797-1317 Outside Milw Toll Free-Dial '1' & Then - 393-1317 Meeting/Conference Facilities— Milw Area797-1368
2400 Kossow Rd Wksh— Miłw Area797-1300 Outside Milw Toll Free-Dial '1' & Then - 393-1300 Belicore TEC Registration— Milw Area797-1372 Outside Milw Toll Free-Dial '1' & Then - 393-1372 Correspondence Courses— Milw Area797-1317 Outside Milw Toll Free-Dial '1' & Then - 393-1317 Meeting/Conference Facilities— Milw Area797-1368
2400 Kossow Rd Wksh— Miłw Area797-1300 Outside Milw Toll Free-Dial '1' & Then - 393-1300 Belicore TEC Registration— Milw Area797-1372 Outside Milw Toll Free-Dial '1' & Then - 393-1372 Correspondence Courses— Milw Area797-1317 Outside Milw Toll Free-Dial '1' & Then - 393-1317 Meeting/Conference Facilities— Milw Area797-1368
2400 Kossow Rd Wksh— Miłw Area797-1300 Outside Milw Toll Free-Dial '1' & Then - 393-1300 Belicore TEC Registration— Milw Area797-1372 Outside Milw Toll Free-Dial '1' & Then - 393-1372 Correspondence Courses— Milw Area797-1317 Outside Milw Toll Free-Dial '1' & Then - 393-1317 Meeting/Conference Facilities— Milw Area797-1368
2400 Kossow Rd Wksh— Milw Area
2400 Kossow Rd Wksh— Mikw Area
2400 Kossow Rd Wksh— Miłw Area
2400 Kossow Rd Wksh— Milw Area
2400 Kossow Rd Wksh— Miłw Area 797-1300 Outside Milw Toll Free-Dial '1' & Then - 393-1300 Beilcore TEC Registration— Milw Area 797-1317 Outside Milw Toll Free-Dial '1' & Then - 393-1372 Correspondence Courses— Milw Area 797-1317 Meeting/Conference Facilities— Milw Area 797-1368 Outside Milw Toll Free-Dial '1' & Then - 393-1368 Outside Milw Toll Free-Dial '1' & Then - 397-1244 Self Study Office— Milw Area 797-1317
2400 Kossow Rd Wksh— Milw Area
2400 Kossow Rd Wksh— 797-1300 Milw Area 797-1300 Outside Milw Toll Free-Dial '1' & Then - 393-1300 888 Bellcore TEC Registration— 797-1312 Milw Area 797-13172 Outside Milw Toll Free-Dial '1' & Then - 393-1372 797-13172 Correspondence Courses— 797-1317 Milw Area 797-1317 Outside Milw Toll Free-Dial '1' & Then - 393-1317 Meeting/Conference Facilities— 797-1368 Outside Milw Toll Free-Dial '1' & Then - 393-1336 Outside Milw Toll Free-Dial '1' & Then - 393-1368 Outside Milw Toll Free-Dial '1' & Then - 393-1368 Ready Tech 797-1317 Outside Milw Toll Free-Dial '1' & Then - 797-1324 Self Study Office— 797-1317 Outside Milw Toll Free-Dial '1' & Then - 393-1310
2400 Kossow Rd Wksh— Milw Area
2400 Kossow Rd Wksh— Milw Area
2400 Kossow Rd Wksh— Milw Area
2400 Kossow Rd Wksh— 797-1300 Milw Area 797-1300 Outside Milw Toll Free-Dial '1' & Then - 393-1300 Belkcore TEC Registration— Milw Area 797-1317 Outside Milw Toll Free-Dial '1' & Then - 393-1370 Belkcore Kores Milw Area 797-1317 Outside Milw Toll Free-Dial '1' & Then - 393-1317 797-1317 Milw Area 797-1368 Outside Milw Toll Free-Dial '1' & Then - 393-1368 797-1368 Outside Milw Toll Free-Dial '1' & Then - 393-1368 797-1368 Outside Milw Toll Free-Dial '1' & Then - 393-1368 797-1368 Outside Milw Toll Free-Dial '1' & Then - 393-1368 797-1368 Outside Milw Toll Free-Dial '1' & Then - 393-1368 797-1324 Self Study Office— 797-1317 Milw Area 797-1317 Outside Milw Oll Free-Dial '1' & Then - 393-1317 7181117 Training & Development Center 797-1369 Milw Area 797-1369 Milw Area 797-1369 Milw Area 797-1369 Milw Area 797-1369
2400 Kossow Rd Wksh— Mikw Area 797-1300 Outside Milw Toll Free-Dial '1' & Then - 393-1300 Belicore TEC Registration— Milw Area 797-1317 Outside Milw Toll Free-Dial '1' & Then - 393-1372 Correspondence Courses— Milw Area 797-1317 Outside Milw Toll Free-Dial '1' & Then - 393-1317 Meeting/Conference Facilities— Milw Area 797-1368 Outside Milw Toll Free-Dial '1' & Then - 393-1368 Outside Milw Toll Free-Dial '1' & Then - 393-1368 Toll Free-Dial '1' & Then 797-1317 Toll Free-Dial '1' & Then 393-1317 Training & Development Center Registration— Milw Area 797-1369 Outside Milw Toil Free-Dial '1' & Then - 393-1369 Transition Management Net Svcs
2400 Kossow Rd Wksh— 797-1300 Milw Area 797-1300 Outside Milw Toll Free-Dial '1' & Then - 393-1300 Belkcore TEC Registration— Milw Area 797-1372 Outside Milw Toll Free-Dial '1' & Then - 393-1372 Outside Milw Toll Free-Dial '1' & Then - 393-1372 Outside Milw Toll Free-Dial '1' & Then - 393-1373 Milw Area 797-1317 Outside Milw Toll Free-Dial '1' & Then - 393-1330 Milw Area 797-1368 Outside Milw Toll Free-Dial '1' & Then - 393-1368 Outside Milw Toll Free-Dial '1' & Then - 393-1368 Ready Tech 797-1368 Outside Milw Toll Free-Dial '1' & Then - 393-1368 Ready Tech 797-1368 Outside Milw Toll Free-Dial '1' & Then - 393-1368 Ready Tech 797-1317 Outside Milw Toll Free-Dial '1' & Then - 393-1317 Training & Development Center 797-1369 Milw Area 797-1369 Outside Milw Toll Free-Dial '1' & Then - 393-1369 71317 Outside Milw Toll Free-Dial '1' & Then - 393-1369 733-1369 Training & Development Center 797-1369 Milw Area 797-1369 714 ' & Then - 393-1369 Transition
2400 Kossow Rd Wksh— 797-1300 Milw Area 797-1300 Outside Milw Toll Free-Dial '1' & Then - 393-1300 8 Bellcore TEC Registration— 797-1317 Milw Area 797-13172 Outside Milw Toll Free-Dial '1' & Then - 393-1372 7 Correspondence Courses— 7 Milw Area 797-1317 Outside Milw Toll Free-Dial '1' & Then - 393-1317 8 Milw Area 797-1317 Outside Milw Toll Free-Dial '1' & Then - 393-1317 8 Milw Area 797-1368 Outside Milw Toll Free-Dial '1' & Then - 393-1368 797-1368 Outside Milw Toll Free-Dial '1' & Then - 393-1368 797-1244 Self Study Office— 797-1244 Self Study Office— 797-1317 Outside Milw Toll Free-Dial '1' & Then - 393-1317 7161 Free-Dial '1' & Then - 393-1317 Training & Development Center 797-1369 Milw Area 797-1369 Outside Milw Toil Free-Dial '1' & Then - 393-1369 Training & Development Center Registration— 797-1369 Outside Milw Toil Free-Dial '1' & Then - 393-1369
2400 Kossow Rd Wksh— 797-1300 Milw Area 797-1300 Outside Milw Toll Free-Dial '1' & Then - 393-1300 Belkcore TEC Registration— Milw Area 797-1317 Outside Milw Toll Free-Dial '1' & Then - 393-1370 Belkcore TEC Registration— Milw Area 797-1317 Outside Milw Toll Free-Dial '1' & Then - 393-1317 797-1368 Milw Area 797-1368 Outside Milw Toll Free-Dial '1' & Then - 393-1368 797-1368 Outside Milw Toll Free-Dial '1' & Then - 393-1368 797-1368 Outside Milw Toll Free-Dial '1' & Then - 393-1368 797-1368 Outside Milw Toll Free-Dial '1' & Then - 393-1368 797-1368 Outside Milw Toll Free-Dial '1' & Then - 393-1368 797-1369 Outside Milw Toll Free-Dial '1' & Then - 393-1317 71317 Outside Milw Toll Free-Dial '1' & Then - 393-1317 713117 Outside Milw Toll Free-Dial '1' & Then - 393-1317 731317 Training & Development Center 797-1369 Milw Area 797-1369 Outside Milw Toll Free-Dial '1' & Then - 393-13269 733-1369 Transition Management Net Sycs 4987 Travel Arrangements-Agcy—
2400 Kossow Rd Wksh— 797-1300 Milw Area 797-1300 Dutside Milw Toll Free-Dial '1' & Then - 393-1300 Belicore TEC Registration— Milw Area 797-1317 Outside Milw Toll Free-Dial '1' & Then - 393-1372 Correspondence Courses— Milw Area 797-1317 Outside Milw Toll Free-Dial '1' & Then - 393-1317 The t
2400 Kossow Rd Wksh— 797-1300 Mikw Area 797-1300 Delcore TEC Registration— 797-1372 Outside Milw Toll Free-Dial '1' & Then - 393-1300 797-1372 Outside Milw Toll Free-Dial '1' & Then - 393-1372 797-1372 Outside Milw Toll Free-Dial '1' & Then - 393-1372 797-1372 Outside Milw Toll Free-Dial '1' & Then - 393-1372 797-1368 Outside Milw Toll Free-Dial '1' & Then - 393-1368 797-1368 Outside Milw Toll Free-Dial '1' & Then - 393-1368 797-1368 Outside Milw Toll Free-Dial '1' & Then - 393-1368 797-1368 Outside Milw Toll Free-Dial '1' & Then - 393-1368 797-1368 Outside Milw Toll Free-Dial '1' & Then - 393-1368 797-1317 Outside Milw Toll Free-Dial '1' & Then - 393-1368 797-1317 Outside Milw Toll Free-Dial '1' & Then - 393-1369 797-1317 Outside Milw Toll Free-Dial '1' & Then - 393-1369 797-1369 Outside Milw Toll Free-Dial '1' & Then - 393-1369 717-1369 Transition Management NetSvcs 4987 Ready Rect, Auto 453-7381 Travel Arrangements-Agcy— 453-7381 Or Call Toll Free-Dial '1' & Then - 800 828-2883
2400 Kossow Rd Wksh— 797-1300 Milw Area 797-1300 Dutside Milw Toll Free-Dial '1' & Then - 393-1300 Belicore TEC Registration— Milw Area 797-1317 Outside Milw Toll Free-Dial '1' & Then - 393-1372 Correspondence Courses— Milw Area 797-1317 Outside Milw Toll Free-Dial '1' & Then - 393-1317 The t

SWITCH-TRAVEL

General Services Section

TRAVEL A-YELLOW SERVICES Volunteer Speaker Panel Bookings Corp Com 13fl 722 NBrdy Vouchers Acctg Opris R273 845 N 35 ----- 6601 w WATS Coordinator NetSvcs R315-D 918 N 26 ------- 3726 WATS Info AcctaOpros ------6617 - 2014 - 2013 - 2635 - 2372 - 2372 - 7860 - 0869 U Underground Cable Locating Distb Svcs 7721 W Fond du Lac Av 535-5023 Unemployment Compensation Pers 121722 NBrdy 12 Fi / 22 NBrdy 4964 United Way 11fN17 W24300 Riverwood Dr Wksh 523-8931 Upgrade & Transfer Bureau Pers 1211722 NBrdy 4338 1211722 NBrdy v Vehicle Repairs See Automotive Operations Video Products Marketing 678-2380 Videotape Bookings Corp Com 13/17/22NBrdy 2293 Vision Care Claims 226-6300 In-State Inquiries 226-6300 Toll Free-Dial '1' & Then 800 242-7160 Voice Messaging System (VMS) Nss 7794 Outage Updates 0922

 Transcription
 5991

 Internal Dictation
 0181

 External Dictation
 0181

 Or Call Toll Free-Dial '1' & Then
 393-1800

 Facsimile Ctr
 2065

 Or Call Toll Free-Dial '1' & Then
 393-2065

 Facsimile Transmissions
 6319

 3fi 17950 W Corporate Dr Brkfld -------2400 Kossow Rd Wksh -------N17 W24300 Riverwood Dr Wksh -------14fi 633 W Wis Av 792-8086 797-1308 523-8928 4508 1411633 W Wis Av Workers Compensation Benfts R1000 722 N Brdy Workers Compensation Nurse R 1005 722 N Brdy ----- 4656

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45

Emergency Operations

Emergency Operations

Headquarters Emergency Operating Center (HEOC) 414 678-3181 Room 340, 740 N. Broadway, Milwaukee

Room 340, 740 N. Broad	way, Milwaukee
Facsimile: Alternate Facsimile: EAS Account: Emergency FX: Alternate Tel. Nos.	414 678-2719 414 678-6319 WI _ HEOC,MESSAGE 608 251-8446 414 271-9922 414 272-0794 414 332-0210 414 383-1543
Emergency Relocation C Room 126, N15 W24250	enter (ERC) 414 549-7045 D Bell Dr., Waukesha
Facsimile: Emergency FX: High Frequency Radio	
Home	eritech Bell Group) tact
Home	int of Contact
FAX	
Emergency Operating Room 2C, 1900 E. Gol Schaumburg, IL 60173 Numbers listed are non	f Road, Floor 2, -hunting
	y Control Center (NECC) 201 829-3862 Relocation Center (NERC) 201 689-4275
Facsimile:	201 644-0532

Emergency Operations

Departmental Operations

Centers (Full Time Coverage)

Distribution and Interoffice Facilities - Distribution Services Department
24 Hour Surveillance,
Statewide 1 393-2447
Alternate
District Emergency Operating Centers (DEOC)
Milwaukee Metro-South
3045 W. Grange Ave., 1st Floor - Lge. Conf. Rm.
Milwaukee Metro-North
Appleton 414-730-5000
221 W. Washington St., 5th Floor, Conference Room 5A
Madison
316 W. Washington Av., Lower Level-Conf. Rm.
nformation Services - Network Switched Services Department
Data Network Operations 414-678-7639
or 1-393-2744
Data Network Help Desk 414-678-4644
or 1-393-2744 Operations Control Center
Operations Control Center 414-549-7626
Applications Control Center Operations 414-678-4666
Switching Facilities - Network Switched Services Department
Network Management Center (NMC) 414-678-3211 918 N. 26 St., Room 314, Milwaukee
Facsimile 414-678-6272
Switching Control Centers (SCC):
Out-of-hours, all locations 414-678-3980
Milwaukee Metro-South 414-678-6002
918 N. 26 St., Room 32
Milwaukee Metro-North 414-678-3980
918 N. 26 St., Room 313
Appleton, 221 W. Washington St., 6th Floor
Fox Valley 414-735-3471
Eau Claire, 304 S. Dewey 715-839-5504
Madison, 316 W. Washington Av., Room 804 608-252-2760
Racine Metro-South, 411 Seventh St 414-636-0620
Facilities Maintenance & Administration
Center (FMAC) 1-393-2671 918 N. 26th St., Room 205, Milwaukee
Special Service Center (SSC)
Out Of Hours, All Locations
918 N 26th St., Room 310, Milwaukee

Emergency Residence Numbers

EMERGENCY RESIDENCE NUMBERS

EXECUTIVE-	Continue
Allen B K President 228-6992	DISTRIBUTION SERVI
Durand J O VP-Finance & Secy 784-0118	Groeschel T G Area M
Geroux J L VP-External Affairs 608 238-9955	Gunderson D S Dist N
Jackson L T VP-Sales & Service 567-4095	Gunkel P E Dist Mor-D
Kehm A R VP-Human Resources 421-4554	Hadden J R Area Mgr-
Valent L R VP & Geni Counsel 317 823-1158	Haliday J D Div Mgr-Di
Ware J J Sr Dir-Quality 784-6001	Hansen T G Area Mgr-
	Higgins M A Stf Mar-D
A	Holloway R Area Mgr-I

ACCOUNTING	OPERATIONS -
Fichner B A (`omot

Eichner R A Compt	241-3329
Davis P E Dist Mgr-Acctg	642-7217
Dickinson R J Dist Mgr-Acctg	421-9483
ADMINISTRATIVE SERVICES/SAFETY-	
Nerby R Dist Mgr-Admin Svcs & Safety	608 833-7324
Ferguson P Mgr-Reprod	
Gill S M Stf Mar-Admin Sycs	786-0658
Haas J A Mgr-Environment	327-4227
Hackbarth Larry Mgr-Micro/TIRM	
Houser H Stf Mgr-Admin Sycs	962-5102
Kirk C Stf Aide	633-7770
Klemish D Mgr-Conf & Travel	466-7956
Knight C Mgr-Conf & Travel	
Krause D M Stf Mar-Admin Sycs	
Kromraj 8 Mgr-Graphics	
Patterson N Stf Mar-Admin Sycs	
Peychal P J Stf Mgr-Envmti Hith & Prot	
Sims R Mar-Drafting & Distb	
Skozek G T Mar-Environment	
Smith M Stf Supy-Admin Sycs	
Subel S Mgr-Rcd Ctr & Forms	
Vitrano R Stf Aide	
	774-0304

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CORPORATE COMMUNICATIONS-	
Butenhoff C M Director-Corp Comm	784-7657
Deptolla R J Stf Mgr-Corp Comm	242-7664
Hart R A Dist Stf Mgr-Corp Comm Plan	421-8819
Kapocius V F Dist Stf Mgr-Media Comm	421-4153
Moore J E Dist Stf Mgr-Emp Info	
Regan W F Dist Stf Mgr-Community Relations	375-3898
CORPORATE PLANNING-	
Farrar L A Stf Mgr-Corp Ping	462-4616
Valaika George Director-Corp Ping	

rge Director-Corp Ping --D

782-2383
337-9193
754-6633
788-6336
442-0511
642-3290
784-1997
332-2526
544-1245
538-1133
837-1033
782-7559
789-7561
273-6528

Continued From Last Column	
Groeschel T G Area Mar-Disth Sycs	730-0354
Gunderson D S Dist Mgr-OSP Eng	782-1883
Gunkel P E Dist Mgr-Distb Svcs	542-3251
Hadden J R Area Mgr-Distb Svcs	367-2089
Haliday J D Div Mgr-Distb Svcs	961-7799
Hansen T G Area Mgr-Distb Svcs	337-0770
Higgins M A Stf Mgr-Distb Svcs	569-9556
Holloway R Area Mgr-Distb Svcs	289-0307
Johnson D A Area Mgr-Distb Svcs 715	832-9693
Johnson R H Mgr-Distb Sycs	542-9090
Kauzrich T Area Mgr-Distb Sycs	859-3010
Keller E W Opms Mgr-Distb Svcs	965-3260
Klumb D E Area Mgr-Distb Svcs 608	655-4497
Koehler L M Dist Mgr-OSP Eng 608	837-4450
Krebs B H Area Mgr-Distb Svcs	
Loomis M G Area Mgr-Distb Svcs	
Lund R A Area Mgr-Distb Svcs	284-5886
Mulkey E J Area Mgr-Distb Svcs	
Nelson Stanley V Area Mgr-Distb Svcs 608	
Netzier J J Mgr-Distb Svcs	761-2780
Oas P J Area Mgr-Distb Svcs 608	836-5517
Pinter J B Dist Mgr-Distb Svcs 715	878-4439
Plautz J M Area Mgr-Distb Svcs	544-1114
Polasky J E Dist Mgr-Distb Svcs	
Randolph M J Oprns Mgr-Distb Svcs	332-6707
Riedi P T Dist Mgr-OSP Eng	734-0569
Schoeberle D D Area Mgr-Distb Svcs 608	
Schoenke T G Area Mgr-Distb Svcs 608	
Splieth R C Dist Mgr-Distb Svcs Tennessen A J Area Mgr-Distb Svcs	734-3855
Tennessen A J Area Mgr-Distb Svcs	922-8750
Trachte W F Dist Mgr-Distb Svcs	786-6202
Wachholz D L Area Mgr-Distb Svcs	782-6690
Weston D J Div Mgr-Distb Svcs	
Wierzba R Area Mgr-Distb Svcs	
Wyatt B J Oprns Mgr-Distb Svcs	931-8523
E	

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EXTERNAL AFFAIRS-	
Smith S L Dir-Exch Carr Rel	242-6473
Morley K B Dir-Spec Assign	351-0627
Daugherty G A Stf Mgr-ECR	784-2134
Delaney G L Mgr-ICS Reviews	784-4291
Froystad J L Stf Mgr-ECR	529-0666
Gilsinger J P Dist Mar-ECR	782-0445
Holton J M Mar-ICS Reviews	968-2065
Langnes R K Stf Supr-ECR	425-2933
Minkel E J Stf Supy-ECR	453-6090
Papara M E Mgr-ECR	
Perone M F Stf Mgr-ECR	
Smith G M Stf Mar-ICS Reviews	
Spano J M Mgr-ECR	
Utsey E Stf Mgr ECR	
Walker R A Director-Reg Affairs	
Wardman M J Stf Mgr-ECR	

HUMAN RESOURCES	
Kehm A R VP-Human Resources	421-4554
Baumgart W A Director-Trng	
Gillard R C Div Mgr-Human Resources	782-3077
Hoemke J B Dist Mgr-Human Resources	786-0597
Continued On Next Page	

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DIALBACK

Table Name : Automatic Dial Back

Data Forms: 2550A, B

Functional Description of Table DIALBACK

Table DIALBACK enhances the security of dial-up ports.

The current method of dialing into a DMS from a remote site consists of the following steps:

- 1. Place the call.
- 2. Receive an answer tone.
- 3. Send an originate tone.
- 4. Initiate login by entering *<BREAK>* login.
- 5. Supply the required user identification (userID) and password.

Once the userID and password are verified, the remote user can access the system. If the userID or password, or both, are incorrect, access is not allowed. The knowledge of a userID and password allow anybody to gain access to a DMS switch. Feature BC1043 (Automatic Dial Back) eliminates this possibility by providing a second layer of security.

After a remote user logs in, the system disconnects the modem. It then calls the user back and the remote user is required to log in again. Only after this second login is the user allowed access to the DMS. A remote knowing a dial–back ID and password is not able to access the system unless the call originates from the correct remote site.

Feature package NTX293AA (Enhanced Security Package II) is required for dial-back to function properly.

Datafill Sequence

There is no requirement to datafill other tables prior to table DIALBACK.

Table Size

Memory is dynamically allocated up to a maximum of 256 tuples.

Customer Data Schema Reference Manual, volume 3 of 8 BCS36 and up

Field Descriptions

Field names, subfield names and valid data ranges for table DIALBACK are described below.

Field Descriptions	for	Table	DIALBACK	
Field or				

Field or Subfield	Entry	Explanation
ID	(up to 16 characters)	<i>Dial-Back Identifier</i> Enter a dial-back identifier, the key to the table which is used to identify the Directory Number (DN) used in the dial-back.
DIRNUM	alphanumeric (up to 30 characters with no imbedded blanks)	Directory Number Enter a dial-back DN. In addition to the normal digits found in a telephone number, the following special characters are used to control the dialing of the number
	Char/Digit	Meaning
	0 to 9	A digit
	A	Ignored on Rixon modem; abort call if no dial tone on CTS212AH modem.
	D	Ignored on Rixon modem; automatic dial the rest of the number on the CTS212AH modem.
	Ν	# (valid only if selected dial type is tone)
	P	Pulse dial the rest of the number
	S	* (valid only if selected dial type is tone)
	Т	Tone dial the rest of the number
	W	Wait a few seconds (modem dependent Rixon: 4 seconds)
	_	Ignored (for clarity only)
		In some cases the command interpreter (CI) can disallow certain combinations of characters and digits in field DIRNUM. For example, the DN 9A5551212 (which specifies that the call is aborted if there is no dial tone after dialing 9) can be misinterpreted by the CI because it looks like a valid hexadecimal address. To solve this problem, an underscore (_) can be inserted preceding the number, for example, _9A5551212.

-continued-

 Field or		
Subfield	Entry	Explanation
MISCINFO	alphanumeric (up to 36 characters with no imbedded blanks)	Miscellaneous Information Enter any miscellaneous information that the operating company wishes to associate with the tuple. For example, the physical location of the DN or address.
		Field MISCINFO cannot contain imbedded blanks, since the blank is used as a terminator in the table edito Underscores (_) are suggested as a replacement.

-end-

Datafill Example

An example of datafill for table DIALBACK is shown below.

The example consists of a remote user with an ID of JOHNSMITH with a DN of 234–5678, which can be tone dialed but must access a dial pulse tie line first. The access number for the tie line is 88. After the tie line is connected, dial tone must be received before completing the dialing. The address of the DN is 1111 Happy Road, ANYTOWN.

Datafill Examples for Tab	Le DIALBACK	
Example of a MAP display.		
ID	DIRNUM	MISCINFO
JOHNSMITH	88AT234_5678	1111_HAPPY_ROAD_ANYTOWN

Table History

BCS36 A note requiring the use of cable CAOX15 was added.

Supplementary Information

This section provides information on product descriptive information related to table DIALBACK.

Dial Back

The special dial-back login sequence is performed only if the correct hardware and firmware are available and the dial-back flag associated with the modem is set.

The first login is a special dial-back login which requires a dial-back ID and password. The second login is the normal login currently used to gain access to the system. The passwords associated with the dial-back IDs are assigned and maintained by the operating company. Passwords are required to have a minimum length.

After the dial-back ID and password are obtained, the modem is disconnected and the remote user is expected to hang up. A brief explanatory message is displayed before the disconnect. A random number of garbage characters can appear on the user's terminal due to the disconnect. This is expected and is no cause of alarm. No attempt is made to inform the user whether the ID and password which were entered were correct. A person trying to break into the system would not immediately know whether he was successful. If the attempt is successful (a correct ID and password pair are entered), a dial-back is performed.

After a short delay to allow the originator to hang up the line and set up the modem, the system then begins to dial–out on a second modem using the Directory Number (DN) associated with the dial–back ID that the user first entered. There is a one–to–one mapping between dial–back IDs and DNs (that is, the DN is a function of the dial–back ID). The manner in which this number is determined provides an indirect level of security since the called number (the one the system calls) is not calling number (the number of the remote site) unless the proper dial–back ID is entered. The amount of time elapsed between the modem disconnect and the completion of the return call varies between 80 and 240 seconds for the Rixon modem (slightly less for the CTS212AH modem). The time is dependent on the baud rate of the port, the load on the switch, the length of the DN dialed, the number of dial–backs attempted and the type of modem used for the dial–back. The operating company is responsible for assigning and maintaining the DNs associated with the dial–back IDs.

Once the call is connected, the following message is displayed and the user is automatically prompted to login:

DIALBACK COMPLETE

It is important that the user does not hit the *<*BREAK> key in order to obtain the logon prompt as this reinitiates the dial–back sequence and causes the automatic login to abort.

Commands

If feature package NTX293AA (Enhanced Security Package II) is present in the switch, the following command interpreter (CI) commands are available: LOGINCONTROL, DIALBACKPW and SHOWDBPW, and office parameter DIALBACKPW_ENCRYPTED in table OFCOPT.

The CI command LOGINCONTROL permits the operating company to turn dial-back on and off for a specific port, as well as change three dial-out-related values (number of rings for each dial-back attempt, number of dial-back attempts and the type of dial line).

The CI command DIALBACKPW allows the operating company to change dial-back passwords. This must be a privileged command in order to prevent security violations. The security of this feature depends on the operating company assigning appropriate command classes for this command.

The CI command SHOWDBPW can be used to show dial-back passwords. It is only available if the office parameter DIALBACKPW_ENCRYPTED is not set.

The dial-back, by the system, is made on a line different from the one which was used for the incoming call. At least two modems must be connected to the switch. The CI command LOGINCONTROL is used to specify whether a modem is used as an answer modem or a dial-out modem when the dial-back function is active.

<u>Tables</u>

Field MODEM specifies which type of modem (if any) is connected to the port. This field can be changed to any acceptable value by using the table editor.

Table DIALBACK, stores dial-back-related data. It contains fields for the dial-back ID, the DN and one for any miscellaneous data which the operating company wishes associated with a specific DN or dial-back ID.

Modems

The Companion CTS212AH Smart Modem and the Rixon R212A Intelligent Modem can be used with feature BC1043 (Automatic Dial Back). Both of the above mentioned modems satisfy the following requirements:

- **Disconnect** It must be possible to disconnect the modem by toggling the Data Terminal Ready (DTR) line of the RS232C interface. The use of a control character sequence to disconnect is not recommended.
- Auto-Dial The modem must be capable of autodialing any number without the need for manual intervention.
- ♦ Auto-Answer The ability to answer incoming calls is a necessary property. It must also be possible to toggle the modem into and out of autoanswer mode by using control characters.

- Modem Ready It must be possible to force the modem's Data Set Ready (DSR) line of the RS232C interface on.
- **Disconnect** One of the requirements of the disconnect is that the call is dropped. If the system modem disconnects, then there cannot be any guarantee that the call was dropped. To ensure the call was dropped, the outgoing dial-back call is placed on a line different from the one on which the original call was received. This method requires that at least two modems exist on the system.

Note 1: *The operation of the Rixon is sensitive to cable length. If the cable is too long, the MODEM UNSTABLE log report can occur frequently.*

Note 2: Outgoing dial-back modems as set with the CI command LOGINCONTROL with device DIALBACK DIAL require that the Digital Coupling Device (DCD) (Input/Output Controller [IOC] connector pin-31) and Call-Through Simulator (CTS) (pin-34) leads are tied high with a strap in the IOC connector. Otherwise, the DMS cannot send the modem initialization string and the SECU122 log reports (DIALBACK FAILED. NO MODEM AVAILABLE) are generated.

Cable CAOX15 must be used for the dial-back modems to operate correctly. This cable has pin-31 and pin-37 strapped at the IOC end to allow the DMS to send initialization strings to the modem.

Since outgoing calls are placed on one of these other modems, the requirement that the line connected to the first modem be dropped is unnecessary. In most cases, the line is dropped when the system disconnects its modem. The only time this does not occur is when the original call was placed through a cross–bar or step–by–step switch. In these two cases, only the originator can drop the call.

An abnormal modem disconnect can also occur if the modem detects noise on the line or the physical connection between the user's modem and the DMS is broken. Telephone lines to which the modems are connected generally do not have Call Waiting feature since it produces an audible tone that the modem regards as noise. This is not mandatory requirement, but only a suggested one since modems disconnected in this way can be hung. It is then necessary to force busy (BSY) and Return-the-Port-to-Service (RTS) twice before the modem is again available. It can also be necessary to re-enable the consoles (that is, the dial-in and dial-out modems) using the command LOGINCONTROL.

Disconnects that occur during login prompting (for dial-back password or CI password) can cause the login process to hang the port indefinately. All dial-back ports must have a login time-out and an idle time-out set using the command LOGINCONTROL.

Note: Read and write access to this table must be restricted by the operating company. Datafill dial–back IDs and DNs of the modems on which feature Automatic Dial Back is enabled in table CUSTPROF.

LoJack III – Theory of Operation

Forward

This document describes the theory of operation and the transmitter tuning procedure for the third generation LoJack Vehicle Locating Unit (VLU) transmitter. Please refer to Motorola Schematic 79D43701L01 for circuit and part reference.

The LoJack III VLU (LJU3) is a VHF radio transceiver controlled by a remote network of computer activated transmitters. It is meant to be the tracked device in a vehicle location and recovery system. The VLU and associated antenna assembly are mounted in a secret location within the vehicle in a standby state until activated via a radio signal broadcast. Active state transmissions consist of periodic transmissions of coded data that can be tracked by a compatible tracking receiver.

Overview

The LJU3 employs a phase continuous Fast Frequency Shift Keyed (FSK) sub–carrier at 1200 bps data rate. The sub–carrier data modulation method complies to the following specifications:

```
Sub-Carrier Modulation : Phase continuous FSK
Bit Rate : 1200 bits per second
Modulation Rate : 1200 baud
Binary "0" : One and one half cycles of 1800 Hz sine wave
Binary "1" : One cycle of 1200 Hz sine wave
```

The transmitter modulation is adjusted to between 3.9 and 4.2 kHz deviation in the factory.

The transmitter uses a digital-to-analog circuit from the microprocessor through a lowpass filter to generate the sub-carrier signals. Filter characteristics are provided with the submitted documentation. An emission designator of 13K2F2D is being requested for the device. The necessary bandwidth was calculated according to the formula B = 2M + 2DK given for frequency modulation digital signals. This calculation was based on the system's rated maximum modulating frequency of 1800 Hz and frequency deviation of 4 kHz.

The uplink modulation consists of a two-frequency FSK:

```
Binary "0" : 17.92 mSec low frequency
Binary "1" : 17.92 mSec high frequency
```

The transmitter modulation is adjusted to between 250 and 350 Hz low to high. The modulation bandwidth of the uplink message is much smaller than the bandwidth required for normal MSK data.

The LJU3 transceiver is shipped without an antenna to LoJack. The unit is installed (hidden) in a vehicle with an antenna attached. The typical LoJack antenna is 50 Ohms, passive and omni–directional. The installation of the unit in the vehicle tends to reduce the effectiveness of the omni–directional radiation pattern.

Transmitter

The LJU3 transmitter is a 2.0 Watt RF output, VHF FM device operating at 173.075 MHz. The transmitter is comprised of the following subsections: power supply, microprocessor controlled bias/modulation, baseband filter, crystal oscillator/modulation/tripler, 2nd frequency tripler, preamplifier, driver amplifier, power amplifier, transmit/receive switch and lowpass harmonic filter.

Power Supply

The LJU3 is designed to be powered from a vehicle's 12 Volt power system. In the event that the vehicle power goes out of regulation, the LJU3 module contains an internal non-rechargable 6 Volt lithium-manganese battery cell. The unit will operate the transmitter from the primary vehicle power supply under normal operating conditions. Before powering the transmitter, the microprocessor measures the primary power supply voltage. If the supply is out of range, the transmitter is powered from the back-up battery.

The 12 Volt primary supply to the transmitter is regulated down to 8.2 Volts to power the transmitter. When the back–up battery is used the cell voltage (6 Volts), combined with the loss in the switching and protection circuitry, limits the voltage.

A precision voltage reference is also provided to the transmitter to provide for increased oscillator frequency stability and to provide for controlled biasing of the preamplifier stage. This reference voltage is switched on by the microprocessor.

Microprocessor

The microprocessor is a Motorola MC68HCL11E9 microcontroller. It uses an external 8 MHz crystal and an internal 2 MHz bus. The microcontroller performs the following functions related to the transmitter: power switching, power amplifier bias control, reference voltage switching, generation of the modulation signal, and carrier frequency tuning.

As detailed in the *Power Supply* section, the microprocessor checks the voltage at the primary power supply to determine if the transmitter should be operated from primary or back–up power. The microprocessor also uses a 6–bit discrete Digital–to–Analog Converter (DAC) circuit to provide a DC bias to the MOSFET power amplifier device and to control a voltage reference circuit that is used in the transmitter section. Finally, the microprocessor also uses a discrete 8–bit DAC circuit to tune the receiver and to tune and modulate the transmitter.

Baseband Filter

The baseband filter is a passive, two-pole lowpass filter. The filter smooths the output of the 8-bit DAC to reduce the high frequency components in the sinusoidal MSK signal used to modulate the carrier frequency.

Crystal Oscillator / Modulator / Tripler

The transmitter's crystal oscillator triples the 19.23055 MHz crystal frequency to 57.69165 MHz. The frequency is pulled using a varactor diode in series with the oscillator crystal. A buffer circuit isolates the crystal oscillator from the next tripler stage and a capacitor coupled, three–stage, bandpass filter provides harmonic attenuation.

2nd Tripler

The 2nd tripler stage triples the 57.69165 MHz frequency to the 173.075 MHz carrier frequency and provides power gain before the transmitter signal is fed to the preamplifier stage. The 2nd tripler also provides additional harmonic filtering using a capacitor coupled, three–stage, bandpass filter.

Preamplifier

The output of the 2^{nd} tripler is fed into the preamplifier stage. This stage uses the voltage provided by the voltage reference to bias a bipolar transistor into Class A. The stage amplifies the signal provided by the 2^{nd} tripler and provides the higher amplitude signal to the driver stage of the transmitter. The preamplifier stage uses a fixed value T-matching circuit to match the output impedance of the 2^{nd} tripler to the input impedance of the preamplifier transistor and a "shunt-L, series-C" combination to match to the input impedance of the RF driver transistor.

RF Driver

The RF driver stage consists of a Class C biased bipolar transistor. The transistor uses feedback to insure stability and amplifies the signal delivered by the preamplifier stage for delivery to the power amplifier stage. The driver is matched to the power amplifier using capacitive tapped coupling.

RF Power Amplifier

The RF Power Amplifier (PA) is a MOSFET. It is biased from the microprocessor through a 6-bit DAC. The digital-to-analog circuit has bypass capacitance in the form of C3 and C75 to minimize any transference of RF between the microprocessor and the PA and vice versa. The PA is matched to the transmitter switch via the first section of the lowpass harmonic filtering.

Harmonic Filter

The harmonic filter in the transmitter consists of two sections. The first section consists of two "series–L, shunt–C" circuits (L25, C109, L24, C107) that provides both lowpass filtering and impedance matching from the PA to the transmitter switch. After the transmitter switching diode a second section of filtering consists of a T–circuit (C114, L23, C117). This circuit (coupled to the antenna via C113) provides filtering for the transmitter and receiver and insures that the antenna is matched to the transmitter and receiver circuits.

Transmit / Receive Switch

The transmit/receive switch allows the use of a single antenna for both transmit and receive functions. PIN diodes D13 and D10 are unbiased in the receive mode. In this mode both diodes are of high impedance which isolates the transmitter from the antenna. When the transmitter is powered, both diodes are biased on via L18 and R123. This causes both diodes to look like low impedance circuits, D13 then connects the transmitter to the antenna.

Transmitter Tuning

The LoJack III will be electronically tuned in a manufacturing test bay. The tuning procedure is as follows:

Center Frequency Tuning

Establish two–way serial communications to the LJU3 unit. Command the unit to turn on the transmitter with no PA bias and no modulation. Measure the carrier frequency. Move the modulation digital–to–analog value until the frequency is as close to 173.075 MHz as the step size allows. The frequency must be within 5 ppm (~1 kHz) of 173.075 MHz. Store the level in EEPROM. If the center frequency can not be obtained, that is, within test limits – fail unit.

MSK Modulation Tuning

Establish two–way serial communications to the LJU3 unit. Command the unit to turn on the transmitter with no PA bias and no modulation. Measure the center frequency. Move the modulation digital–to–analog value until the center frequency is as close to 173.075 MHz + 5200 Hz as the step size allows. Calculate the difference between the center frequency measurement digital–to–analog value and the value used to move the carrier to 173.075 MHz + 5200 Hz. Load this value into EEPROM. Using test software, engage MSK modulation and measure the deviation. Insure that the deviation falls between 3800 and 4200 Hz. (Since there is a lowpass filter in the DAC section, the MSK modulation will be lower than the frequency shift that was measured using a steady carrier signal. This is why 5200 Hz is measured during this test using as a carrier offset, but the same value of digital–to–analog results in an average of 4000 Hz MSK modulation.)

Uplink Modulation Tuning

Establish two–way serial communications to the LJU3 unit. Command the unit to turn on the transmitter with no PA bias and no modulation. Measure the center frequency. Move the modulation digital–to–analog value until the center frequency is as close to 173.075 MHz + 1950 Hz as the step size allows. Move the modulation digital–to–analog value until the center frequency is as close to 173.075 MHz – 1950 Hz as the step size allows. Using the two frequencies measured in this section and the center frequency measurement, calculate the digital–to–analog values for 300 Hz modulation inside of these two measured frequencies.

Also calculate two more sets of frequencies that will create a pair of inner modulation frequencies. The inner pairs should be equally spaced between the outer. (Approximately +/-600 Hz around the center frequency.)

This will result in four discrete uplink message frequency pairs. Two about 600 Hz away from the center frequency of 173.075 MHz and the other two that are further out. The outer

frequencies are defined by the outer most frequency in the modulating pair. This frequency is defined to be at 1950 Hz away from the center or less. This insures that the uplink pairs all remain well within the allowable occupied bandwidth and emissions masks.

PA Bias

Establish two–way serial communications to the LJU3 unit. Command the unit to turn on the transmitter with no PA bias and no reference voltage. This will bias the transmitter with no RF present. Measure the current into the unit. Increase the PA bias digital–to–analog value until the current level increases by 25 to 55 mA. The bias level that is the lowest in the range should be stored in EEPROM. If bias level between 25 to 55 mA is not obtained – fail unit.

Turn on transmitter, including PA bias and reference. Measure the RF power output of the transmitter. If RF power output is above 2.4 Watts or below specification, adjust PA bias down or up respectively until power output is in spec. If power output is not in spec within two digital-to-analog step sizes – fail unit.

FCC §90.20(e)

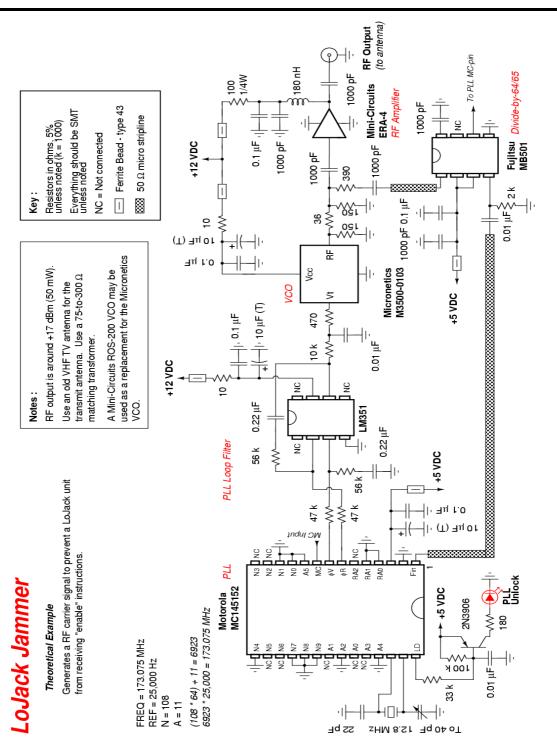
(6) The frequency 173.075 MHz is available for stolen vehicle recovery systems on a shared basis with the Federal Government. Stolen vehicle recovery systems are limited to recovering stolen vehicles and are not authorized for general purpose vehicle tracking or monitoring. Mobile transmitters operating on this frequency are limited to 2.5 Watts power output and base transmitters are limited to 300 Watts ERP. F1D and F2D emissions may be used within a maximum authorized 20 kHz bandwidth. Transmissions from mobiles shall be limited to 200 milliseconds every 10 seconds, except that when a vehicle is being tracked actively transmissions may be 200 milliseconds every second. Alternatively, transmissions from mobiles shall be limited to 1800 milliseconds every 300 seconds with a maximum of six such messages in any 30 minute period. Transmissions from base stations shall be limited to a total time of one second every minute. Applications for base stations operating on this frequency shall require coordination with the Federal Government. Applicants shall perform an analysis for each base station located within 169 km (105 miles) of a TV Channel 7 transmitter of potential interference to TV Channel 7 viewers. Such stations will be authorized if the applicant has limited the interference contour to fewer than 100 residences or if the applicant:

(i) Shows that the proposed site is the only suitable location;

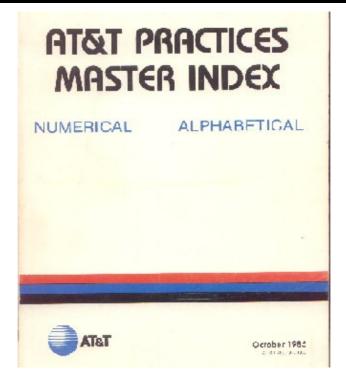
(ii) Develops a plan to control any interference caused to TV reception from the operations; and

(iii) Agrees to make such adjustments in the TV receivers affected as may be necessary to eliminate interference caused by its operations.

The licensee must eliminate any interference caused by its operation to TV channel 7 reception within 30 days of the time it is notified in writing by the Commission. If this interference is not removed within the 30–day period, operation of the base station must be discontinued. The licensee is expected to help resolve all complaints of interference.



LoJack Jammer



This is a scan of the *Operations Support Systems – Operation, Maintenance, and Administration* section of the *AT&T Practices Master Index*, as shown above.

This practice (*Master Index*) provides an index to all practices developed and maintained by AT&T Technologies, Inc., and identified under the 9–digit numbering plan. These practices are documents authorized by AT&T Technologies, Inc., as the recommended instructions and criteria for planning, engineering, installing, operating, and maintaining telecommunications equipment and software products designed and manufactured by AT&T Technologies, Inc. These practices also play an important part in the training of personnel.

A 9-digit (XXX-YYY-ZZZ) numbering plan is used for AT&T Practices with each practice being assigned an unique 9-digit number in accordance with the subject matter covered. This plan permits organizing information into various categories to simplify and improve indexing. This plan also provides a convenient means for ordering, distributing, and filing practices.

In the 9-digit numbering plan, the first three digits, *XXX*, identify major categories of information and are referred to as *division* numbers. The fourth digit, xxx-*Y*, identifies a subdivision of a given category of information and is referred to as the *layer* number. The fifth and sixth digits, xxx-y*YY*, represent a further breakdown and are referred to as *sublayer* numbers. This scheme permits the breakdown of a division into subcategories of information. The last three digits, xxx-yyy-*ZZZ*, identify individual practices within a grouping (layers and sublayers) and are referred to as *key* numbers.



Numerical Index, Division 190 AT&T 190-000-000, Issue 45

Operations Support Systems Operation, Maintenance, and Administration

1. Purpose

1.01 This index provides a listing of documents in Division 190.

1.02 This index reverted to Issue 1 in July 1985. Prior to that date there had been 99 issues of the index.

2. How to Use This Index

2.01 For additional index information, refer to AT&T Master Index — 9-digit Numbered Documents AT&T 000-002. The Master Index contains all divisional indexes.

3. Conventions Used

3.01 A bullet (●) indicates an item that has been added or changed since the previous issue of the index.

3.02 An open square (J) indicates a cancelled item. Information relating to the cancellation, if necessary, will be shown in a note following the item. Cancelled items and related notes will be deleted upon reissue of the index.

3.03 A square with an enclosed "A" ((2)) indicates an archived item. An archived document is one that, in all probability, will never be revised and/or has had no distribution activity for an extended period of time. Archived documents can be ordered.

November 1993

- 3.04 A solid square (■) indicates that distribution of this item is limited.
- 3.05 A solid circle with an enclosed "1" (0) indicates an item that will not be distributed on standing order.
- **3.06** A solid triangle (▲) indicates a TOP (Task Oriented Practice).
- 3.07 An electronic media symbol (木) indicates an item is available on CD-ROM, magnetic tape, or other electronic media.
- 3.08 Addendums, revisions, and supplements are listed above the associated document. Appendixes are listed *under* the associated document.

4. How to Order Documentation

- 4.01 To order this document:
 - Within the continental United States, call 1-800-432-6600.
 - In Canada, call 1-800-256-1242.

5. How to Comment on This Index

5.01 AT&T values your opinion. We would like to know how well the index meets your needs.

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AT&T 190-000-000, Issue 45

Please send comments on this index to:

AT&T Number Assignment Administrator 2400 Reynolda Rd., Department 4051 Winston-Salem, NC 27106-4696

6. Contents of Division

6.01 This division is arranged in layers as follows:

190-0 Index and Equipment Test Lists

- -000 Index
- -001 Equipment Test Lists
- -099 Customer Information Releases (CIRs)
- 190-1 Operational Support Systems
 - -101 CMS (Circuit Maintenance System 3A) -102 CAROT (Centralized Automatic Reporting on
 - Trunks) 2/Generic 2 (Centralized Automatic Reporting on Trunks) -103 CAROT 2/Generic 3 (2CAROT3) and Generic 4
 - (2CAROT4) (Centralized Automatic Reporting on Trunks)
 - -104 RTTU/CTTU (Remote Trunk Test Unit/Central Trunk Test Unit)
 - -105 ATA (Automatic Trouble Analysis)
 - -106 MDT (Maintenance Data Transmitter)
 - -107 Programmable Scanner/Distributor ATA (Automatic Trouble Analysis)
 - -108 TREAT (Trouble Report Evaluation and Analysis Tool) System
 - -110 No. 2 Applications
 - -130 SCC (Switching Control Centers)
 - -135 BILLDATS II Collector
 - -140 Frame Control Center Frame Work Station
- 190-2 Surveillance and Control Systems
 - -200 TCAS (T Carrier Administration System)
 - -201 Alarm Centers
 - -202 FMAC (Facility Maintenance and Administration Center)
 - -203 SFMAC (Satellite Facility Maintenance Administration Center)
 - -205 SCOTS (Surveillance and Control of Transmission Systems)

- -206 TMAS
- -207 COMPULERT
- -208 TRANSVU II Network Surveillance and Control Systems
- -209 ACORN Network Control System
- -210 TASC (Telecommunications Alarm Surveillance and Control) System
- -211 DACSCANT
- -215 TOPAS (Testing Operation Provisioning Administration System
- -216 CONNECTVU
- -220 RMMS (Regional Maintenance Management System)
- 190-3 Central Office Maintenance Management -305 COMMS (Central Office Maintenance Manage-
 - -305 COMMS (Central Office Maintenance ment System) — Preventive Maintenance -306 SCANS (Software Change Administration and
- Notification System) 190-4 Network Operations Systems
- -401 NSC (Network Service Center)
 - -402 LSU (Local Storage Unit) and CMDR (Centralized Message Detail Recorder)
 - -406 NTMS (Network Traffic Management System)
 - -407 FASTAR (Fast Automatic Restoration)
 - -408 MFOS (Multifunction Operations Systems)
 - -422 TNM (Total Network Management)
- 190-5 Engineering and Administration Systems -510 EADAS (Engineering and Administrative Data Acquisition System)
 - -511 EADAS 1A (Engineering and Administrative Data Acquisition System — 1A)
 - -512 EADAS/NORGEN (Engineering and Administrative Data Acquisition System — Network Operations Report Generator)
 - -514 SONDS (Small Office Network Data System) and PDT-2A (Pollable Data Terminal No. 2A)
 - -519 NAC (Network Administration Center)
 - -520 COSMOS (Computer System for Main Frame Operations) — Network Administration
 - -521 RMAS (Remote Memory Administration System) and RMAP (Remote Memory Administration Position)
 - -540 EADAS/NM (Engineering and Administrative Data Acquisition System/Network Management)

November 1993

AT&T 190-000-000, issue 45 Numerical Index, Division 190 190-7 Integrated and Force Administration System Subject Number Issue -701 IFFAS (Integrated Facilities and Force Administra-190-1 Operational Support Systems tion System) 190-101 CMS (Circuit Maintenance System 3A) 7. Index **General Description** Special Service Center (SSC) 190-101-100 3 190-101-110 Software Number Issue Subject 190-101-112 Circuit Identification (CID) 1 Reconciliation Guidelines 190-0 Index and Equipment Test Lists Data Merge Guidelines for TIRKS and SSS Load Tapes 190-101-113 2 190-000 Index 2 190-101-120 Features Numerical Index — Division 190 — Operations Support Systems • 190-000-000 45 Special Service Center - Operation, Maintenance, and Terminal Commands -Administration 190-101-125 Indexes 3 190-101-130 3 000 Through 099 -190-001 Equipment Test Lists Logon/Logolt and System Ad-ministration Commands 190-001-011 7 Engineering and Administration 100 Through 199 - Activation 190-101-131 3 Data Acquisition System (EAand Deactivation Applications DAS 200 Through 299 --- Work List 3 190-101-132 190-001-012 Automatic Trouble Analysis 1 Applications (ATA) - Operations Support and 300 Through 399 — Mainte-nance Manual Entry Commands 190-101-133 3 Processors Automatic Trouble Reporting 190-001-013 1 190-101-134 3 400 Through 499 — Document Access Commands System (ATRS) - Operations Support and Processors 500 Through 599 - Installation 190-101-135 3 190-001-014 2 No. 2 Switching Control Center Manual Entry Commands Appli-System cations 190-001-015 Centralized Automatic Reporting On Trunks (CAROT) Operations Addendum 1 700 Through 799 - Interface Integrated Facilities and Force Administration (IFFAS) - Opera-190-101-137 1 190-001-016 1 Message Applications tions Support and Processors 800 Through 899 - Job Aids 190-101-138 3 900 Through 999 - Administra-190-001-017 1 T-Carrier Administration System 190-101-139 3 (TCAS) - Operations Support tive Reports and Processors System Messages and Operation 190-099 Customer Information Releases (CIRs) System Output Messages -190-101-150 2 Special Service Center COMPULERT: Computer Ad-190-099-011TD 4 System Administration Functions 190-101-160 3 ministration System, Operations - Special Service Center Systems 190-101-161 Analysis Report Generator ---1 190-099-015TD 4 MACSTAR I Software, End Description Customer Management System 190-101-162 Report Generator - Description (FCMS) Operations Systems 190-101-170 System Operator - Description з 190-099-040TD 3 MACSTAR II Software End Cusand Operating Procedure tomer Management System (ECMS), Operations Systems Operations Systems — MMOC Operator's Handbook 190-101-175 1 SCCS 2B Host Generic 12 and 190-099-053TD 1 Maintenance, Trouble Analysis, 190-101-180 2 Control Equipment No. 3 Generic 3, Operations Systems and Correction

November 1993

AT&T 190-000-000, Issue 45

Number	lasuc	Subject	Number	Issue	Subject
102 CAROT 2	/Generi	c 2 (Centralized Automatic			3 (2CAROT3), Generic 4
Reporting or					5 (2CAROT5) and Generi6 ed Automatic Reporting on
190-102-010	2	TOSC Operations and Adminis- tration	Trunks)		-
1 9 0-102-015	3	Analysis of Test Results — CAROT Center and Remote User	1 9 0-103-001		Centralized Automatic Reporting On Trunks (CAROT) 2CAROT6 - Controller User's Guide (1-
Addendum	1				93). This manual includes the
190-102-100	3	General System Description			binder and tabs for practices 190-103-011, 190-103-232.
Addendum	1				190-103-231, 190-103-234,
190-102-103	1	Remote-User Terminal — Description and Operation			190-103-135, 190-103-522, 190-103-521, and 190-103-521
Addendum	1		190-103-002	1	Centralized Automatic Reporting
190-102-201	1	Data Base Administration			On Trunks (CAROT) 2CAROT
Addendum	1				- Remote User's Terminal
190-102-202	2	CAROT 2 Controller Administra- tion			Guide (1-93). This manual in- cludes the binder and tabs for practices 190-103-012, 190-
Addendum	2				103-133, and 190-103-234
190-102-203	2	Data Base (Generic 2) — Description and Requirements	190-103-003	1	Centralized Automatic Reporting On Trunks (CAROT) 2CAROT6
Addendum	1				- Controller/Remote User's
190-102-204	1	Circuit Order Activity — Imple- mentation and Description			Guide (1-93). This manual in- cludes the binder and tabs for
Addendum	1				practices 190-103-013, 190- 103-130, 190-103-236, 190-
190-102-205	1	Test Editor Program			103-235, 190-103-233, 190-
Addendum	1				103-019, 190-103-237, and
190-102-206	2	SELEC Program			190-103-240
190-102-207	1	Report Program Generator (RPG)	190-103-011	1	Centralized Automatic Reporting On Trunks (CAROT) 2CAROT6
190-102-301	2	Controller — Generic 2, Issue 3 — Operating Procedures			Controller User's Guide- Intro- duction (1-93)
190-102-305	2	Remote User Terminal Operating Procedures	190-103-012	1	Centralized Automatic Reporting On Trunks (CAROT) 2CAROT6
190-102-500	3	System Trouble-Locating Pro- cedures			Remote User's Terminal Guide- Introduction (1-93)
190-102-501	2	Generic 2, Issue 5 — System Recovery Strategy	190-103-013	1	Centralized Automatic Reporting On Trunks (CAROT) 2CAROT6
190-102-502	1	Remote-User Port Diagnostic Test Descriptions			Controller/Remote User's Termi- nal Guide- Introduction (1-93)
			Addendum	1	
			190-103-015	3	2CAROT3 — Analysis of Test Results
			Addendum	1	
			190-103-017	1	2CAROT4 — Analysis of Test Results

190-103-019

1

Page 4

November 1993

2CAROT6 — Analysis of Test Results (7-92)

Numerical Index, Division 190

AT&T 190-000-000, Issue 45

			Number	lasue	Subject
Number	Issuc	Subject			,
190-103-100	2	2CAROT3 — General System Description	190-103-207	1	2CAROT3 — Report Program Generator (RPG) Description
Addendum	1		190-103-210	2	2CAROT3 — Installation Plan- ning and Procedures
190-103-103	?	2CAROT3 — Remote-User Ter- minal — Description and Opera- tion	190-103-211	1	2CAROT4 — Data Base Ad- ministration
190-103-105	3	2CAROT3 — CAROT/CMS Inter- face Description	19 0-103-212	1	2CAROT4 — Controller Adminis- tration
190-103-018	1	2CAROT5 — Analysis of Test Results	190-103-213	1	2CAROT4 — Data Base Description and Transactions
190-103-110	1	2CAROT4 — General System Description	190-103-214	1	2CAROT4 — Circuit Order Activi- ty — Implementation and
190-103-113	1	2CAROT4 — Remote-User Ter-			Description
		minal — Description and Opera- tion	190-103-215	1	2CAROT4 — Text Editor Pro- gram
190-103-115	1	2CAROT4 CAROT/CMS Inter-	190-103-216	1	2CAROT4 - SELEC Program
190-103-116	3	face Description 2CAROT4, 2CAROT5, and	190-103-217	1	2CAROT4 — Report Program Generator
	-	2CAROT6 - Remote-User Ter-	Addendum	1	
		minal Operating Instructions Pocket Guide (7-92)	190-103-2 20	1	2CAROT4 — Installation and Ac- ceptance Procedures
190-103-120	1	2CAROT5 — General System Description	190-103-221	1	2CAROT5 — Data Base Ad- ministration
190-103-123	1	2CAROT5 — Remote-User Ter- minal — Description and Opera-	190-103-222	1	2CAROT5 — Controller Adminis- tration
190-103-125	1	tion 2CAROT5 — CAROT/CMS Inter-	190-103-223	1	2CAROT5 — Data Base Description and Transactions
190-103-130	1	face Description 2CAROT6 — General System	190-103-224	1	2CAROT5 — Implementation and Description
190-103-133	1	Description (7-92) 2CAROT6 — Remote-User Ter-	190-103-225	1	2CAROT5 — Text Editor Pro- gram
130 100 100	•	minal — Description and Opera-	100 100 000	1	2CAROT5 — Selec Program
		tion (7-92)	190-103-226 190-103-227	1	2CAROT5 — Report Program
190-103-135	1	2CAROT6 — CAROT/CMS Inter- face Description (7-92)			Generator
Addendum	1		190-103-230	1	2CAROT5 — Installation and Ac- ceptance Procedures
190-103-201	3	2CAROT3 — Data Base Ad- ministration	190-103-231	1	2CAROT6 — Data Base Ad- ministration (7-92) 2CAROT4 —
Addendum	1				Installation and Acceptance Pro-
190-103-202	3	2CAROT3 — CAROT 2 Controll- er Administration	190-103-232	1	cedures 2CAROT6 — Controller Adminis-
190-103-203	3	2CAROT3 — Data Base Description and Transactions	190-103-233	1	tration (7-92) 2CAROT6 — Data Base
190-103-204	1	2CAROT3 — Circuit Order Activi- ty — Implementation and Description			Description and Transactions (7- 92) 2CAROT6 — Circuit Order Activi-
190-103-205	1	2CAROT3 — Text Editor Pro- gram	190-103-234	1	ty — Implementation and Description (7-92)
190-103-206	2	2CAROT3 — SELEC Program	190-103-235	1	2CAROT6 — Text Editor Pro- gram (7-92)

November 1993

AT&T 190-000-000, I					
Number	lasuc	Subject	Number	Issue	•
1 90-103-23 6	1	2CAROT6 — SELEC Program (7-92)	190-104-101	1	Remote Trunk Test Unit — Frame Description — 2-Wire 1/1A ESS ¹⁴ Switch, 1/1A ESS
190-103-237	1	2CAROT6 — Report Program Generator (7-92)			Switch With HILO 4-Wire Feature, and 2/28 ESS Switch
190-103-240	1	2CAROT6 — Conversion and Installation Guide (7-92)	190-104-103	1	Maintenance and Trouble Locat ing Procedures 5XB, SXS,
Addendum	1				and 3 ESS Switch
▲190-103-300	1	2CAROT3 — Operating Pro- cedures	190-104-201	1	Performance Test Requirement
▲190-103-305	1	2CAROT3 - Remote-User Ter-	Romoto Trunk T	est Unit	- Acceptance Tests
		minal Operating Procedures	190-104-202	1	1/1A ESS Switch
190-103-310	1	2CAROT3 - Console Output	190-104-203	1	2/2B ESS Switch
		Message Manual	190-104-204	1	5ESS Switch
▲Addendum	2		190-104-204	·	0200 01111
▲190-103-400	1	CAROT 2 Controller — Generics 4 and 5 — Operating Procedures	Mini-Remote Tr	unk Tes	t Unit — Acceptance Tests
▲Addendum	2		190-104-205	1	3 ESS Switch
▲190-103-405	1	CAROT 2 - Generics 4 and 5 -	190-104-206	1	Step-by-Step Switch
A130-100-403		Remote-User Terminal — Operating Procedures Central- ized Auto. Reporting on Trucks	190-104-207	1	No. 5 Crossbar Switch
	1	2CAROT4 Console Output	Central Trunk T	est Unit	- Operating Procedures
190-103-410	'	Message Manual	▲190-104-301	1	General
190-103-500	1	2CAROT3 - System Trouble-	▲190-104-3 02	1	1/1A ESS Switches
190-100-000	•	Locating Procedures	▲190-104-303	1	2/2B ESS Switches
190-103-501	1	2CAROT3 - System Recovery	▲190-104-3 04	1	5ESS Switches
		Strategy	▲190-104-305	1	3 ESS Switches
190-103-502	1	2CAROT3 - Remote-User Port	▲190-104-306	1	Step-by-Step Switches
		Diagnostic Test Descriptions	▲190-104-307	1	No. 5 Crossbar Switches
190-103-510	1	2CAROT5 - Console Output			
		Message Manual			t — Maintenance and Trouble L
190-103-511	1	2CAROT5 — System Recovery Strategy	cating Procedur		
	1	2CAROT5 — System Trouble-	190-104-501	1	2/2B ESS Switch
• 190-103-512	1	Locating Procedures 2CAROT6 — Console Output	190-104-502	1	2-Wire 1/1A ESS Switches and 1/1A ESS Switches With HILO 4-Wire Feature
190-103-520	1	Message Manual (7-92)			5XB, SXS, and 3 ESS Switch
190-103-521	1	2CAROT6 - System Recovery	190-104-503	1	
190-103-521	'	Strategy (7-92)	190-104-504	1	Overall System Tests
190-103-522	1	2CAROT6 — System Trouble- Locating Procedures (7-92)	190-105 ATA (Au	tomatio	Trouble Analysis)
			190-105-101	2	Description
190-104 RTTU/C Trunk Test		emote Trunk Test Unit/Central	190-105-301	3	input Commands/Output Mes- sages
I FUNK LEST	Unit)		190-105-302	3	Operating Procedures

November 1993

Numerical Index, Division 190

AT&T 190-000-000, issue 45

Number	Issue	Subject	Number	Issue	Subject	
190-105-310	3	System Arranged With PDP*	190-107 Programmable Scanner/Distributor - (Automatic Trouble Analysis)			
		Center Operating Procedures	(Automatic Tre	Juble	analysis/	
190-105-311	4	Computer System Generation	190-107-101	2	SD-94844-01 - Description	
190-105-312	2	Computer Trouble Sectionalizing	Addendum	1		
		and Recovery	190-107-301	2	Trouble-Locating Procedures	
190-105-313	4	Computer Input Commands/Output Messages	190-108 TREAT (Tro	uble I	Report Evaluation and	
190-105-314	3	PDP - 11/70 Computer Operating Procedures	Analysis Tool)	-		
190-105-501	1	Computer Acceptance Tests	190-108-005	1	Central Office Reports -	
190-105-502	2	PDP - 11/70 Computer Accep-			Description	
		tance Tests			witching Control Conter	
106 MDT (Ma	intenan	ce Data Transmitter)	190-110/129 No. 2 St System) — Ap		witching Control Center ions	
			General Informati	on		
190-106-101	1	SD-28111-01 — Description — No. 5 Crossbar Offices Arranged for ATA	190-110-110	9	Common Application — Descrition	
190-106-102	1	SD-28129-01 — Description — No. 5 Crossbar Offices With OI-	1 9 0-110-120	1	Computer Subsystem — Administrative Guidelines	
		tice Test Frame (OTF) Arranged for Automatic Trouble Analysis	190-110-121	1	Computer Subsystem — Syste Administrator Procedures	
		(ATA)	190-110-302	3	Computer Subsystem and Cor	
190-106-111	3	SD-28110-01 — Description — No. 1 Crossbar Offices Arranged			trol Equipment — Hardware Check	
		for Automatic Trouble Analysis (ATA)	190-110-305	1	Control Equipment — T Cabin Operation and Maintenance	
Addendum	1		190-110-310	5	Computer Subsystem and Cor	
190-106-301	2	Trouble Locating Procedure — No. 5 Crossbar			trol Equipment — Hardware Operation and Reconfiguration	
Addendum	1		190-110-314	3	Common Equipment - Troub	
190-106-311	з	Trouble Locating Procedure —			leshooting Procedures	
190-106-501	2	No. 1 Crossbar No. 5 Crossbar Offices With Master Test Frame (MTF) Ar- ranged for Automatic Trouble	190-110-321	4	Computer Subsystem and Con trol Equipment — System Acc tance Tests and Operational T Procedures	
		Analysis (ATA) Acceptance Tests	4ESS™ Switch			
100 105 500	1	Acceptance Tests — No. 5	190-111-110	3	Description	
	1	Crossbar Offices With Office Test Frame (OTF) Arranged for Au-		-	Description	
190-106-502		tomatic Trouble Analysis (ATA)	1A ESSTM Switch			
190-100-502	-	Acceptance Tests - No. 1	190-112-110	3	Description	
	2		190-112-340	3	Operational Test Procedures	
190-106-502	2	Crossbar Offices Arranged for		2		
	2	Crossbar Offices Arranged for Automatic Trouble Analysis (ATA)	190-112-341	2	System Recovery Procedure	
	2	Automatic Trouble Analysis	190-112-341 1 ESS Switch	2	System Recovery Procedure	
	2	Automatic Trouble Analysis		4	Description Multiple Message Alerting (MI	

November 1993

AT&T 190-000-000, Issue 45

Number	Issue	Subject	Number	Issue	Subject
Addendum	4		190-117-340	2	Operating and Test Procedures
190-113-310	2	Operating and Diagnostic Test	190-117-341	2	Emergency Action Procedures
190-113-311	2	Procedure Emergency Action Procedures	190-117-342	2	Operating and Test Procedures — Generic 3E3 and Later Issues
190-113-312	2	Analysis of Network Failures and TN08 Messages	190-118-110	1	Automatic Interrupt System (AIS) Application — Description
190-113-313	1	Trunk Maintenance Package (TRUMP) — Procedures	AIS (Automatic I	ntercept	t System)
Addendum	1		190-118-340	1	Operation and Test Procedures
190-113-314	1	Network Analysis Operational Procedures	190-118-341	1	Emergency Action Procedures (Control Console)
190-113-315	2	TN08 Messages Analysis Pro- cedures — Operation, Mainte- nance, and Administration	101 ESS Switch	1	Description
190-113-340	3	Operating and Diagnostic Test	190-119-110		
	1	Procedures	190-11 9- 310	1	Operation and Trouble Analysis Procedures
Addendum 190-113-341	1	Emoreonau Action Procedure	190-119-311	1	Emergency Action Procedure
190-113-341		Emergency Action Procedure			
Traffic Service P		Suchara No. 1	Peripheral Data S	Storage	
190-114-110	2	Description	190-120-110	1	Description
190-114-310	2	Central Office Interconnect —	190-120-340	1	Operational Test Procedure
	_	Operation and Test Procedures	190-120-341	1	Enhanced 911 and Enhanced Private Switched Communication
190-114-311	2	Emergency Action Procedures			Service — System Recovery
190-114-340	1	Control Console No. 1A — Operation and Test Procedures			Procedure — No. 2 Switching Control Center System
190-114-341	1	Control Console No. 1A - Emer-			
		gency Action Procedures	5ESS Switch		
			190-122-110	3	Description
2 ESS Switch					
190-115-110	2	Description	Traffic Service P	osition	System No. 1B
190-115-310	1	Operation and Test Procedures	190-123-110	з	Description
190-115-311	2	Emergency Action Procedures			
Addendum	1		Network Contro	Point	
190-115-340	2	Control Console No. 1A/2A — Operation and Test Procedures	190-124-110	1	Description
190-115-341	3	Emergency Action Procedures	Digital Access a	nd Cross	s-Connect System
			190-125-110	3	Description
2B ESS Switch			190-125-311	2	Emergency Action Procedure
Addendum	1		190-125-340	2	Operating and Test Procedures
190-116-110	1	Description		-	
Addendum	1		D5 Channel Ban	k l	
190-116-340	1	Operation and Test Procedures	190-126-110	1	Description
190-116-341	3	Emergency Action Procedures			- ·
3 ESS Switch			AUTOPLEX - Sy		
190-117-110	2	Description	190-127-110	1	Description
190-117-110	2	Description			

November 1993

Numerical Index, Division 190

AT&T 190-000-000, Issue 45

Number	lssu	e Subject		Number	Issue	Subject
190-127-340	1	Operational Test Procedures		190-130-121	1	Alarm Surveillance Guides —
190-127-341	1	Emergency Action Procedure				Ordering Information
DMS -10 Switch				190-130-122AC	3	Remote Work Center (RWC) — Operating Guidelines
190-128-110	2	Description		Appendix 1AC	1	Notification and Escalation Guidelines for Network Mainte- nance
No. 1 PSS (No. 1	Packet	Switch System)		Appendix 2AC	1	Network Maintenance Guidelines
190-129-110	2	Description				- RWC Staffing
Signal Transfer P	'oints (STPs)	•	Appendix 3AC	1	RWC Interface Responsibilities tor AT&T Services
190-129-210	1	No. 1 - Description		190-130-123AC	1	Network Maintenance Guidelines
190-129-310	1	No. 2 — Description				- Remote Work Center Opera- tional Review
DMS -100 Switch	Annli	ication	•	Appendix 1AC	1	RWC Office Profile
190-129-410	1	Description		Appendix 2AC	1	Coordinator's Checklist and In- terview Work Sheets
100 120 Culturbine	C	n) Contom (SCC)	•	Appendix 3AC	1	Review Feedback Sheets
190-130 Switching	Contr	of Centers (SCC)		Appendix 4AC	1	Interview — Operations Manager
190-130-010	1	SPCS/SCC Control Maintenance Plan — Network Maintenance		Appendix 5AC	1	Interview — Supervisor — Gen- eral
		Plan	-	Appendix 6AC	1	Interview — Supervisor — Sys- tem Administrator
190-130-110	1	Introduction, Planning, and Im- plementation — Network Mainte-	•	Appendix 7AC	1	Interview — Technician — Gen- eral
190-130-111	1	nance Management Guide for Switching Control	•	Appendix 8AC	1	Interview — STP — Supervisor and Technician
		Center Implementation and Cut- over Scheduling — Network		Appendix 9AC	1	Interview — NCP — Supervisor and Technician
		Maintenance Management	•		Interview — DCO — Supervisor and Technician	
190-130-112	1	Administrative Guidelines — Stored Program Control System	-	Appendix 11AC	1	Interview — TSPS — Supervisor and Technician
		— Network Maintenance Management		Appendix 12AC	۱	Interview — 1PSS — Supervisor and Technician
190-130-113	1	Rural Switching Control Center		Appendix 13AC	1	Interview — 4ESS™ — Supervi- sor and Technician
		Administrative Guide — Network Maintenance Management		Appendix 14AC	1	Interview — 5ESS ⁻ — Supervi- sor and Technician
190-130-11 5	2	Organizational Sizing of Switch- ing Control Centers		190-130-130	2	Administrative Procedures
190-130-120	2	Organization and Responsibility Guidelines		190-130-131	2	Pricing Guides Ordering Informa- tion — Network Maintenance
Appendix 1	1	Performance Standards — Description				Management
Appendix 2	1	Work Assignment Lists — Description		190-130-133	1	Dispatch and Administration Pro- cedures
Appendix 3	1	Manager and Supervisor Job Summaries — Descriptions		19 0-1 3 0-135	1	Operations Guide — 24-Hour Switching Control Center — Operations Support Systems

November 1993

Page 9

AT&T 190-000-000, Issue 45

Number	lssuc	Subject	Number	Issue	Subject	
190-130-140	1	Work Schedule — Form E-6837 — Preparation and Use — Net-	• 190-135-004	1	BILLDATS II Col (2) - Opera- tions and Maintenance Guide	
		work Maintenance Management	H 190-135-005	3	BILLDATS II Col — Acceptance	
190-130-143	1	Network Maintenance Manage- ment Plan — Operational Review	190-135-00 6	1	BILLDATS II Col (2) — Optional Features Guide	
190-130-146	1	Guidelines Building and Power Alarms Cen-	190-135-007	1	BILLDATS II Col (2) - CDDS in terface	
190-130-147	1	tral Office Maintenance Stored Program Control System	190-135-008	2	BILLDATS Reference Guide	
		- Trouble Escalation Pro- cedures	190-138 PROES (Pa vice)	aperles	s Remote Order Entry Ser-	
190-130-150	1	Load and Work Time Record — Form E-6843 — Network Mainte-	190-140 Frame Cor	ntrol Ce	nter — Frame Work Station	
Addendum	1	nance Management	190-140-100	1	Organizational Guidelines and Responsibilities	
190-130-160	1	Work Load and Force Measure-	190-140-110	1	Operating Procedures	
190-130-160	1	ment Plan — Network Mainte- nance Management	190-140-120	1	Implementation Guidelines	
190-130-200	1	SCC/SCCS Centralized Trunk Operation	190-2 Surveillance and Control Systems			
190-130-202	1	Enhanced Private Switched Communications Service Pro-	190-200 TCAS (T Carrier Administration System			
		cedures — Operation, Mainte- nance, and Administration	190-200-001	1	Organization and Responsibili- ties	
190-130-203	1	No. 1/1A ESS Remote Trunk and	190-200-002	1	Quality Review Plan	
		Line Test Procedures Using Re-	190-200-010	5	Overall System Description	
		mote Trunk Test Interface (SD- 1A485-01)	190-200-025	1	Organization and Responsibili- ties	
190-130-204	1	Customer Service Administrative Control Center (CSACC) —	190-200-030	3	Maintenance Controller (MC) General Operating Procedures	
190-130-205	1	EPSCS Network Status System (CENSS) Electronic Tandem Network Ser-	190-200-031	2	Maintenance Controller (MC) — Typical Trouble Handling Pro- cedures	
		vice Procedures	190-200-100	4	Central Equipment Description	
190-130-300	1	Centralized Trunk Operation — Central Office Maintenance	190-200-101	5	Input Commands Description	
		Management - Electromechani-	190-200-102	5	Reports and Tasks Description	
Addendum	1	cal	190-200-103	2	Facilities Maintenance and Ad- ministration Center-Metropolitan	
190-130-301	1	Electromechanical Centalized			- Control Positions Description	
		Switch Operations — Network Maintenance Management	190-200-300	7	Operating and Routine Mainte- nance Procedures	
		-	190-200-310	5	Data Base Controller Operation	
135 BILLDATS	II Co	ollector	190-200-311	2	Equipment and Facility Assign- ment Controller Procedures	
190-135-002	3	BILLDATS II Col (2) — Output Messages	190-200-312	2	Maintenance Control and Maint nance Alarm Control Positions -	
190-135-003	з	BILLDATS II Col (2) — Input Commands			General Operating Procedures	

Page 10

November 1993

Numerical Index, Division 190

AT&T 190-000-000, Issue 45

Number	ไรรบ	e Subject	Number	Issuc	Subject		
190-200-313	2	Maintenance Control and Mainte- nance Alarm Control Positions — Typical Trouble-Handling Pro-	190-203 SFMAC (Satellite Facility Maintenance Ad- ministration Center)				
		cedures	• 190-203-101	1	MONARC (Monitor and Remote		
1 9 0-200-314	3	Supervisory Controller Pro- cedures			Control) User Manual		
1 90- 200-500	4	Central Unit Test Procedures	190-205 SCOTS (S sion Systems		ance and Control of Transmis		
-201 Alarm Cent	iers		190-205-101	3	Transmission Maintenance Sys-		
190-201-010	1	Administration			tem - General Description		
			190-205-102	3	Transmission Maintenance Sys- tem — Central Terminal Descrip		
-202 FMAC (Fac	ility M	Maintenance and Administra-			tion		
tion Center)			190-205-103	2	Transmission Maintenance Sys		
190-202-004	1	Personnel Responsibilities			tem - Remote Equipment		
190-202-010AC	1	FAMAS 2 Ticket Administration			Description		
		Procedures	190-205-300	3	Central Terminal Operations		
190-202-041	1	Controlled Maintenance Plan	190-205-301	3	Data Base Planning		
		Operations Centers and Support	190-205-302	3	Data Base Management		
		Systems	190-205-303	3	Locally Delined Operations		
190-202-061	1	Standard Alarm Name and	190-205-500	2	System Maintenance		
		Status Indication Abbreviations — Description	190-205-502	2	Remote Maintenance		
400.000.001.40	•	Standard Alarm Name and	Addendum AC	1			
190-202-061AC	2	Standard Alarm Name and Status Indication Abbreviations — Description	190-205-601AC	1	Generic 3 With Generic 4 Enhanced Operations — Syste Description and Operation		
Addendum	1		Addendum AC	1	Description and operation		
190-202-101	1	Organization, Responsibilities, and Objectives — Metropolitan	■ 190-205-602AC		Generic 3 With Generic 4 Enhanced Operations — Data		
190-2 02-102	1	Operations Support Systems — Metropolitan			Base and Program Implementa		
190-202-103	1	Planning and Implementation	Addendum AC	1			
		Metropolitan	■ 190-205-603AC		Generic 3 - Output Message		
190-202-110AC	1	Facility Network Control Plan — Description			Description		
190-202-201	1	Organization and Responsibili- ties			t Maintenance and Adminis		
190-202-202	1	Operations Support Systems	tration Syste				
190-202-203	1	Planning and Implementation	190-206-101	4	User Reference Manual		
190-202-463	1	Alarm Surveillance Procedures	190-206-103	3	Field User Reference Manual		
		and Responsibilities — Descrip- tion	190-206-105	3	System Administrator and Maintenance Manual		
190-202-510AC	1	Facility Technical Assistance Support Plan — Description —	■ 190-206-106	4	Data Base Administration and Operations Manual		
		Facility Technical Assistance Group (FTAG)	190-206-107	4	User Programmability and Re- port Generation Manual		
190-202-760	1	73 Facility Provisioning Methods	190-206-109	3	Output Message Manual		
		and Procedures	190-206-109	1	Output Message Manual		

November 1993

	100 000 000	1
AIAI	190-000-000,	ISSUE 45

Number	lssu	e Subject	Number	Issue	Subject
90-207 COMPUL	ERT		190-208-115	1	TRANSVU II Network Surveil- lance and Control System - 3.0
190-207-010	1	2CM3 Technical Description			and 3.1 System Administration
190-207-100	1	System Administration Manual			and Maintenance Manual
190-207-110	1	Input/Output Messages	Addendum	1	
190-207-200	1	General Operations	190-208-116	1	TRANSVU II Network Surveil- lance and Control System - Da-
190-207-210	1	User Guide			tabase Administration
90-208 TRANSVI		twork Surveillance and Con-	190-208-117	1	TRANSVU II Network Surveil-
trol Systems					lance and Control System — User Programmability and Re-
190-208-020	1	TRANSVU II Network Surveil-			port Generation Manual TRANSVU Network Surveillance
		lance and Control System Plan-	190-208-118	1	and Control System - TNC Use
		ning and Implementation Guide			Reference Manual - Rel 3.0
Addendum	2				and 3.1 (6-93)
190-208-101	2	User Reference Manual (8-92)	190-208-119	1	TRANSVU II Network Surveil-
190-208-103	2	Field User Reference Manual (8-92)			lance and Control System - Output Message Manual - Rel
Addendum	2				3.0 and 3.1 (6-93)
190-208-105	3	Transvu II Network Surveillance and Control System — Adminis- tration and Maintenance Manual	190-209 ACORN	Networ	k Control System
		(4-93)	190-209-001	2	Administration and Operations Manual — 1.0.1 Documentation
Addendum	2	D. I. D Administration and	190-209-002	3	Maintenance Guide
190-208-106	2	Data Base Administration and Operation Manual (8-92)	190-209-010	2	Reference Guide
190-208-107	2	TRANSVU II Network Surveil-	190-209-020	2	Central Processor Maintenance
130-200-107	-	lance and Control System -	190-209-020	2	Guide
		User Programmability and Re- port Generation Manual	190-209-0 21	1	Hub and Hub Expansion Unit Maintenance Guide
190-208-109	2	Output Message Manual (8-92)	190-209-022	2	Satellite Maintenance Guide
			190-209-023	2	Performance Monitor Mainte-
Release 3.0/3.1					nance Guide
190-208-111	1	TRANSVU II Network Surveil-	190-209-024	1	Satellite 2M
		lance and Control System -	190-209-025	1	HUB Installation Guide
		User Reference Manual Rel 3.0 and 3.1 (6-93)	190-209-026	1	Satellite 2 Installation Guide
190-208-112	1	TRANSVU Network Surveillance and Control System 3.0 and 3.1	190-209-027	1	Performance Monitor Installation Guide
		MAP Creation Guide	190-209-101	1	Administration and Operations
190-208-113	1	TRANSVU II Network Surveil-			Manual - 1.1 Documentation
- 130-200-110		lance and Control System -			
		Field User Reference Manual	190-210 TASC (Te lance and Co		unications Alarm Surveil- System
190-208-114	1	TRANSVU II Network Surveil-			
		lance and Control System -	Methods	•	A de la la la de la Deservador
		System Administration and Maintenance Manuala (Rel 3.1)	190-210-020	2	Administrative Procedures

Page 12

Numerical Index, Division 190

AT&T 190-000-000, Issue 45

Number	ไดรเ	ie Subject	Number	lssuc	Subject
	e Guid	e) — Network Maintenance	190-211 DACSCAN		
Management 190-210-050	2	No. 5 Crossbar	190-211-201	1	DACSCAN - 2000 Operation,
190-210-050	1	No. 1 Crossbar			Administration and Maintenance
190-210-052	1	Crossbar Tandem			Guide
190-210-053	1	Step-by-Step System - No. 1,	190-211-203	1	DACSCAN - 2000 Controller
		350A, 355A	190-211-20 5	1	User Guide — Controller Opera tions and Administration User
1 9 0-210-054	2	Building and Power — Step-by- Step and Crossbar Switching Systems	190-211-301	1	Guide DACSCAN — 2000 User's Manual
Description, Op	eration	, and Maintenance	100 215 TOPAS (T	eetino	Operation Provisioning Ad-
190-210-101	3	System Description — Generic 1 and Generic 2	ministration S		
190-210-102	3	Central Description — Generic 1	190-215-000AC	1	System Description/Engineering
190-210-103	3	Remote Equipment Description Generic 1(G1) and Generic			Guidelines/Administration Guid
		2(G2)	190-215-011	1.3	Network 4.1 Releate Notes
190-210-112	1	Control Terminal Description Generic 2	190-215-101AC	2	System Administration and Operation System Description
190-210-300	3	Central Operations — Generic 1	190-215-102AC	2	Network Testing and Mainte-
190-210-301	3	Data Base Planning for Generic		_	nance - System Description
		1 Using E2A SAC Remotes and CDO Satellite Units	190-215-103AC	2	Network Administration and Routing System Description
190-210-302	3	Data Base Operations — Gener-	190-215-111AC	2	TOPAS User's Manual
190-210-303	3	ic 1 Program Sequencer — Generic	■ 190-215-301AC	2	Network Testing and Mainte- nance Testing Procedures
190-210-304	3	1 and Generic 2 Generics 1 and 2 — Data Base	190-215-310AC	2	Network Administration and Routing Provisioning Procedure
190-210-004	J	Planning Using C1, E1, E2, and E2A APR Remotes	■ 190-215-320AC	2	System Administration and Operation Administration Pro-
190-210-305	1	Application Program Operations Generics 1 and 2	190-215-321AC	2	cedures Operational Maintenance Guid
190-210-310	1	Central Terminal Operations for			
		Generic 2	190-220 RMMS (Re	gional	I Maintenance Management
190-210-311	1	Data Base Planning for Generic 2 Using E2A SAC Remotes and	System)		
		CDO Satellite Units	190-220-000AC	1	System Documentation
190-210-312	1	Data Base Operations — Gener- ic 2	190-220-001AC	1	Facility Testing - User's Guid
190-210-500	3	System Maintenance - Gener-	190-220-004AC	1	Application and Utility Program — Description and Application
		ics 1 and 2	190-220-010	1	Carrier Transmission Mainte-
190-210-600	1	System Description and Opera- tions			nance System (CTMS)/Trunk and Facility Maintenance System
190-210-601	1	Data Base and Program Imple- mentation			(TFMS) — Administrative Methods and Procedures
190-210-602	1	Output Message Description	190-220-100AC	3	General Description
			190-220-101AC	3	Central Description

November 1993

	Number	Issue	Subject		Number	Issue	Subject
	190-220-105	1	Carrier Transmission Mainte-	190-30	6 SCANS (Sol	tware	Change Administration and
			nance System (CTMS)/Trunk		Notification Sy	(stem)	
			and Facility Maintenance System			2	System Administration
			(TFMS) — Routine Measure- ments		90-306-010	2	High-Speed Terminal Interface
_		0	General Operating Procedures		90-306-100	2	Overwrite Administration and
_	190-220-300AC	2		• 1	90-306-110	1	Procedures In the Switching
	190-220-301AC	3	Data Base Management				Control Center System -
	190-220-500AC	3	Maintenance				Description
-	190-220-501AC	3	4M Multiplexor — Description, Operation, and Diagnostics				
	190-220-550AC	з	General Administrative Pro-	190-4 Ne	twork Operatio	ons Sy	stem5
			cedures		-		
	190-220-551AC	3	Routine Tests — Line and Multi- plex Sections — Gain/Frequency	190-4	11 NSC (Netwo	ork se	
			Characteristics and Noise	1	90-401-000	3	Information Resources Index
	Appendix 1AC	з	Routine Tests - Line and Multi-	1	90-401-004 AC	3	Network Administration and
			plex Sections - Performance In-				Routing — CNRDB/IRAS — Job Aid
-			dicate Calculations CPMP (Carrier Performance		90-401-006AC	1	NSD (Network Services Division
-	190-220-552AC	1	Measurement Program) -	-			- OSPS (Operator Service Pos
			Description and Applications				tion System) - Methods and
	190-220-572AC	2	Demand Measurements				Procedures
-					90-401-040	2	Description
190-3 C	entral Office M	ainter	ance Management		SCs for BOCs (B	ell Op	erating Companies)
_					90-401-060	1	Management Guide
•	190-304-103AC	2	CAMS Field User's Guide Overview and Tasks (Vol. 1)		90-401-060AC	1	AT&T Center Management
			Screen Descriptions (Vol. 2)				Guide
	190-304-105AC	1	CAMS SME User Guide		90-401-070	1	Operations Guide
-	100 004 100/10	•			90-401-070AC	1	AT&T Center Operations Guide
190.3	M5 COMMS (Centra	1 Office Maintenance		90-401-091	1	Operational Review — Introduc-
170-			m) — Preventive Maintenance				tion
	0				90-401-093	1	Operational Review — Organiza tion Checklist
	190-305-101	3	Description				
	190-305-102	2	Coordinators Guidelines		190-401-095	1	Operational Review — Management Checklist
	190-305-301	2	Equipment Inventory		190-401-097	1	Operational Review - Opera-
	190-305-302	3	Method of Handling Routine List, Scheduling Parameters, Local		190-401-09/		tions Checklist
			Routines & Local Equipment		190-401-099	1	Operational Review - Review
	190-305-303	2	Method of Handling Work Item				Summary Checklist
	130-000-000		List and PM Schedule				
	190-305-304	1	Method of Handling Work Orders	,	dministration, C	perati	on, and Maintenance
	190-305-305	1	Teletypewriter Operating Pro-		190-401-100	1	Network Service Centers
			cedures		190-401-101AC	1	Customer Trouble Report (CTR
	190-305-306	2	Method of Handling Administra-				- Analyzation and Trouble
			tive and Summary Reports				Clearing Procedures - Custo-
	190-305-307	2	Method of Updating				mer Trouble Report Center
					190-401-110 190-401-110AC	1	Network Task Force AT&T-C Long Distance Repair

November 1993

Numerical Index, Division 190

AT&T 190-000-000, Issue 45

Number	lssu	e Subject	Number	Issue	Subject	
190-401-120	1	Area Network Service Center	190-401-405	1	Trouble Ticket - Description	
190-401-120AC	1	Customer Trouble Report Opera-	190-401-415	1	Trouble Analysis - Introduction	
		tions Support System (CTR OSS) — Description	190-401-420	1	Trouble Analysis — Computer ized Operator Trouble Report	
Appendix 1AC	1	Customer Trouble Reporting Contact List	190-401-425	1	Analysis Trouble Analysis — Network E	
Appendix 2AC	1	IDDD Countries — Alphabetical by Country Code	190-401-430	1	ception Reports Trouble Analysis — Local	
Appendix 3AC	1	IDDD Countries — Numerical by Country Code			Maintenance, Trend, and Spec Study Reports	
Appendix 4AC	1	User Messages — CTR OSS Log On Procedure	190-401-435	1	Trouble Analysis — Administra tive Reports	
Appendix 5AC	1	CTR OSS Internal User Mes- sages	190-401-440	1	Masterfile Maintenance - Intr duction	
190-401-130	1	Network Committee Organiza- tions		1	Masterfile Maintenance — Switching Entity Definition (SE	
190-401-140	1	Performance Measurement and Operational Review	190-401-450	1	Updates Masterfile Maintenance — NPA NXX Definition Updates	
190-401-150	10	Directory	190-401-455	1	Masterfile Maintenance - Co	
190-401-230 190-401-240	1 2	Reorder Analysis Call Disposition Data (Service	190-401-455		mon Language Location Iden	
	1	Evaluation) — Operations Sup- port Systems SES 1A Interface With	190-401-460	1	Masterfile Maintenance — Ro ing Specification List (RSL) U	
190-401-241		ATRS/NOTIS			dates	
190-401-250	1	Call Sampling and Hold and Trace Procedures	190-401-465	1	Masterfile Maintenance — Dis bution Control File (DCF-1) U dates	
190-401-300	1	Equipment and Billing Accuracy Control (EBAC)	190-401-470	1	Masterfile Maintenance — Mu ple Destination Request (MD	
Addendum	1				Updates	
190-401-301	1	Administration Guide — Mes- sage Recording Trunk Trouble Analysis (MRTTA) System	190-401-475	1	Masterfile Maintenance — Operator Trunk Group (OTG) dates	
190-401-320	2	Automated Trouble Reporting System (ATRS)	190-401-480	1	Job Aid — Masterfile Mainte- nance	
190-401-321	1	Central Unit — Operating Pro- cedures — Automated Trouble	190-401-485	1	Job Aid — Masterfile Error Correction	
		Reporting System (ATRS)	190-401-490	1	Job Aid — Masterfile Printout	
190-401-322	1	Trouble Locating Procedures				
190-401-330	1	Network Call Completion			torage Unit) and CMDR (C	
190-401-340	1	Phase 1 — Description and Planning		•	etail Recorder)	
190-401-352	1	Terminal Operations Guide — Mechanized Evaluation of Call	94A Customer P		· ·	
		Completion Anomalies (MECCA)	▲190-402-000	3	Installation, Test and Mainte- nance	
			190-402-100	3	94A LSU Descriptive Informa	
tem)		ations Trouble Information Sys-	190-402-200	3	Identification and Preinstallat Information	
190-401-400	1	Trouble Reporting — Description and Procedures				

November 1993

		ssue 4					
	Number	Issue	Subject		Number	Issue	Subject
	1 9 0-402-250	1	Local Storage Unit (LSU) — Maintenance Support	•	190-406-144	2	System Administration (Italtel SIP)
					190-406-146	2	User Guide (Italtel SIP)
9	3B Customer Pr	emise Sv	stem		190-406-147	2	Page Display User Guide (Italtel
	190-403-000	1	Installation, Test and Mainte-				SIP)
-			nance		190-406-148	2	Commands and System
	190-403-100	3	Description Information				Responses (Italtel SIP)
	190-403-250	1	Maintenance Support				
							nent System) — Netherlands
190-4	06 NTMS (Ne	twork 1	Fraffic Management System)		190-406-150	2	Netminder System Description
	NIME (Pasters	1 Nietu	rk Management System)		190-406-152	2	Netminder Record Base Ad- ministration
	(NMS (Kegiona 190-406-100	3 Networ	System Description Generic 3.3		190-406-154	2	Netminder System Administra-
	190400-100	J	V1 Update for Financial Coding		100-104	4	tion
			Guide for CSFO		190-406-156	2	Netminder Network Managemen
	190-406-102	3	Record Base Administration	-			User's Guide
			Generic 3.3		190-406-157	2	Netminder Display Guide
	190-406-104	3	System Administration Generic 3.3		190-406-158	2	Netminder Commands and System Responses
38	190-406-106	3	Network Management User's				
		_	Guide Generic 3.3		NMS (Network	Manage	ment System) — Taiwan
	190-406-107	3	Page/Display User's Guide Gen- eric 3.3		190-406-160	1	System Description
	190-406-108	3	Commands and System		190-406-162	1	Record Base Administration
	190-406-108	3	Responses Generic 3.3		190-406-164	1	System Administration
					190-406-166	1	Network Management User's Guide
	Netminder		0 i D		190-406-167	1	Page Display User Manual
	190-406-110	3 3	System Description Record Base Administration		190-406-168	1	Commands and System
	190-406-112		Guide				Responses
	190-406-114	3	System Administration		Network Traffi	c Manago	ement — Operations System
	190-406-116	3.1	Network Management Guide		(NTM-OS) - K		
	190-406-117	3	Page/Display Guide	U.	190-406-170	1	NTM-OS System Description
	190-406-118	3	Commands/System Report	0	190-406-172	1	Record Base Administration
			(C. torr) English	u -	190-406-173	1	Data Tables Reference Guide
			ment System) — Spain	ц.	190-406-174	1	System Administration
-	190-406-134	E	System Administration	u.	190-406-176	1	Network Management User's
	190-406-136	E	Users Guide				Guide
	190-406-137	E	Page/Display User Guide	5	190-406-177	1	Page and Display User's Guide
_	190-406-138	E	Commands /System Responses	a	190-406-178	1	Commands and System Responses
	INMS (Italy Ne		anagement System)	ц.	190-406-179	1	NTM-OS Reports — User Guide
•	190-406-140	2	System Description Manual (Ital- tel SIP)		No. 2 Network	Traffic N	fanagement Operation System
	190-406-141	1	SIP Document		190-406-210	1	System Description
(1)	190-406-142	2	Record Base Administration (Ital-		190-406-211	1	NTMOS Complete Set
			tel SIP)				

Page 16

Numerical Index, Division 190

AT&T 190-000-000, Issue 45

Number	lsau	e Subject	Number	lasuc	Subject
190-406-214	1	System Administration Guide	190-408-111	н	MFOSOP/02E Functions Manual
190-406-216	1	Network Management User's			(SCS) Vol. 1
100 100 017		Guide	190-408-112	н	MFOSOP/02E Operation and Maintenance Manual (SCS) Vol.
190-406-217	1	Page Display User's Guide			1
190-406-218	2	Commands/System Responses	190-408-113	F	IN-MFOSCR/02E Commands
190-406-220 190-406-222	2	NTMOS System Description NTMOS Record Base Adminis-			and Reports Manual (SCS) Vol.
190400-222	2	tration			1
190-406-224	2	NTMOS System Administration	190-408-121	н	IN-MFOSFM/02E Functions Manual (SMS) Vol. 2
190-406-225	2	NTMOS Display Users Guide	190-408-122	н	IN-MFOSOP/02E Operation and
1 90-406-2 26	2	NTMOS Network Management Users Guide	■ 190-400-127	n	Maintenance Manual (SMS) Vol. 2
190-406-227	2	NTMOS Page Users Guide	190-408-123	н	IN-MFOSCR/02E Commands
190-406-228	2	NTMOS Commands/System Responses			and Reports Manual (SMS) Vol. 2
NMS (Network	Manage	ment System) — Italy	190-408-124	н	IN-MFOSFM Functions Manual (SMS/DCRS) Vol. 2
190-406-240	1	System Description	190-408-125	н	IN-MFOSOP/02E Operation and
190-406-242	1	Record Base Administration			Maintenance Manual (SMS/DCRS) Vol. 2
190-406-244	1	System Administration	190-408-126	н	IN-MFOSCR/02E Commands
190-406-246	1	Network Management Users Guide			and Reports Manual (SMS/DCRS) Vol. 2
190-406-247	1	Page and Display User Manual	190-408-131	н	IN-MFOSFM/02E Functions
190-406-248	2	Commands and System			Manual (APS) Vol. 3
		Responses	190-408-132	G	IN-MFOSOP/02E Operation and Maintenance Manual (APS) Vol.
v	rk Manag	gement System (RNMS) Generic 5	190-408-133	G	3 IN-MFOSCR/02E Commands
System Description Record Base Admini			190-400-133	G	and Reports Manual (APS) Vol. 3
190-406-313	1	Data Tables	190-408-141	F	IN-MFOSFM/02E Functions
190-406-314	1	System Administration Guide	-		Manual (CCS) Vol. 4
190-406-316	1	Network Management User's Guide	190-408-142	F	IN-MFOSOP/02E Operation and Maintenance Manual (CCS) Vol.
190-406-317	1	Page Display User's Guide			4
190-406-318	1	Commands/System Responses	190-408-143	F	IN-MFOSCR/02E Commands
190-406-319	1	Report Users Guide			and Reports Manual (CCS) Vol. 4
	-		190-408-151	G	N-MFOSFM/02E Functions
190-407 FASTAR	(Fast Au	tomatic Restoration)	■ 130-400-101	ũ	Manual (TFS) Vol. 5
	•	540740 0 0 0 0	190-408-152	G	IN-MFOSOP/02E Operation and
190-407-110	2	FASTAR— Operations and Maintenance Guide (OMG)—			Maintenance Manual (TFS) Vol. 5
		(Fast Automatic Restore)	■ 190-408-153	G	IN-MFOSCR/02E Commands and Reports Manual (TFS) Vol. 5
		ction Operations Systems)	190-408-161	G	IN-MFOSFM/02E Functions Manual (SDAS) Vol. 6
MFOS Software			190-408-162	F	IN-MFOSOP/02E Operation and
190-408-100	G	MFOSOP/02E Functions Manual Vol. 0	■ 130-102		Maintenance Manual (SDAS) Vol. 6

November 1993

	Number	Issue	Subject		Number	Issuc	Subject
	190-408-163	G	IN-MFOSCR/02E Commands		190-408-211	в	IN-MFOS TFS User OP
	190-408-164	G	and Reports Manual (SDAS) Vol. 6 IN-MFOSCR/02E Commands		190-408-212	c	IN-MFOS SDAS (Switch Data- base Acquisition Subsystem) SSA OP
-	190-408-104	G	and Reports Manual (SDAS)		190-408-213	с	IN-MFOS SDAS User OP
			(USA) Vol. 6B		190-408-214	Ā	IN-MFOS SDAS COM OP
•	190-408-164KR	F	IN-MFOSCR/02E Commands and Reports Manual (SDAS)		190-408-217	B	IN-MFOS SCS CR (Command and Reports Manual)
-		F	(Netherlands) Vol. 6B IN-MFOSCR/02E Commands		190-408-218	с	IN-MFOS SMS CR
	190-408-164NL	F	and Reports Manual (SDAS)		190-408-219	Α	IN-MFOS DCRS CR
			(Korea) Vol. 6B		190-408-220	С	IN-MFOS APS CR
	190-408-171	F	IN-MFOSFM/02E Functions		190-408-221	в	IN-MFOS CCS CR
			Manual (TTS) Vol. 7		190-408-222	в	IN-MFOS TFS CR
	190-408-172	F	IN-MFOSOP/02E Operation and		190-408-223	с	IN-MFOS SDAS CR
			Maintenance Manual (TTS) Vol.		190-408-224	Ð	IN-MFOS SDAS Masks CR
	190-408-173	F	7 IN-MFOSCR/02E Commands and Reports Manual (TTS) Vol. 7	•	190-408-224HDPT		IN-MFOS SDAS Masks CR
	190-408-181	F	IN-MFOSFM/02E Functions		MFOS Software Re		
	190-408-182	F	Manual (NMS) Vol. 8 IN-MFOSOP/02E Operation and		190-408-301	1	MFOS Functions Manual V2 Generic 5.2 (Fast Automatic R store)
			Maintenance Manual (NMS) Vol. 8		190-408-301ITSP	A	MFOS Operation System Mar (2 vols)
•	190-408-183	F	IN-MFOSCR/02E Commands and Reports Manual (NMS) Vol. 8	•	190-408-311	1	MFOS/OP SCS (System Con- troller Subsystem) Installation Manual V1 Generic 5.2
					190-408-311ITSP	1	MFOS/OP SCS (System Con-
	MFOS Software I 190-408-201	Release E	5.1 Documents IN-MFOS Functions Manual Vol.2				troller Subsystem) Installation Manual V1 Generic 5.2 (SIP C Italy)
	190-408-202	D	IN-MFOS SCS (System Controll- er Subsystem) SSA (Subsystem	-	190-408-312	1	MFOS/OP Maintenance Manu V1 Generic 5.2
			Administrator) OP (Operations and Maintenance Procedures) Manual	-	190-408-313	1	MFOS Commands and Report SCS Generic 5.2 V1 Generic
•	190-408-203	в	IN-MFOS SMS (Switch Mainte- nance Subsystem) SSA OP	_	190-408-313ITSP		MFOS CRMS Controller Subs tem
	190-408-204	в	IN-MFOS SMS User OP	-	190-408-321	1	MFOS/OP SMS (Switch Main nance Subsystem) Administra
	190-408-205	A	IN-MFOS DCRS (Data Collection and Reporting Subsystem) SSA	-	190-408-321ITSP	A	tion Guide Generic 5.2 MFOS/OP SMS (Switch Main
			OP	_			nance Subsystem) Administra
	190-408-206	A	IN-MFOS DCRS User OP				tion Guide Generic 5.2 (SIP C
	190-408-207	с	IN-MFOS APS (Alarm Process- ing Subsystem) SSA OP		190-408-322	1	Italy) MFOS/OP SMS User Manual
-	190-408-208	в	IN-MFOS APS User OP		130-400-322	1	Generic 5.2
	190-408-209	в	IN-MFOS CCS (Common Com- munication Subsystem) SSA OP		190-408-322ITSP	A	MFOS/OP SMS User Manual Generic 5.2 (SIP Co. Italy)
	190-408-210	в	IN-MFOS TFC (Traffic) SSA OP		190-408-323	1	MFOSCR SMS Manuals V2

Page 18

Numerical Index, Division 190

AT&T 190-000-000, Issue 45

Number	Issue	Subject		Number	Issue	Subject
190-408-323ITS	SP A	MFOSCR SMS Manuals V2 Generic 5.2 (SIP Co. Italy)	•	190-408-361	1	MFOSOP SDAS Subsystem Ad- ministration Generic 5.2
190-408-324	1	MFOS/OP DCRS Subsystem Ad- ministration Generic 5.2	•	190-408-3611TSP	A	MFOSOP SDAS Subsystem Ad- ministration Generic 5.2 (SIP Co. Italy)
190-408-325	1	MFOSOP DCRS User Guide v1 Generic 5.2		1 90-408-3 62	1	MFOS Operation and Mainte- nance SDAS User Guide Gener-
■ 190-408-3 26	1	MFOS Data Collection and Re- porting Subsystem — Com- mands and Reports Manual Gen- eric 5.2		190-408-362ITSP	A	ic 5.2 MFOS SDAS Subsystem User Guide Generic 5.2 (SIP Co. Italy)
190-408-331	1	MFOS APS Operation and Maintenance Procedural Manual	•	190-408-363	1	MFOSOP SDAS Operation and Maintenance Guide Generic 5.2
190-408-3311TS	SP A	Generic 5.2 MFOS APS Operation and Maintenance Procedural Manual	•	190-408-363ITSP	A	MFOS Operation and Mainte- nance SDAS Commands (SIP Co. Italy)
190-408-332	1	Generic 5.2 (SIP Co. Italy) MFOS Operation and Mainte-		190-408-364	1	MFOS Commands and Reports Manuals SDAS Generic 5.2
		nance Procedures Manuas APS User Operation	•	190-408-364ITSP	A	MFOS Commands and Reports Manuals SDAS Generic 5.2 (SIP
190-408-332IT	SP A	MFOS Operation and Mainte- nance Procedures Manuas — APS User Operation (SIP Co. Italy)		190-408-365	1	Co. Italy) MFOS Commands and Reports SDAS Masks Manual Generic 5.2
190-408-333	1	MFOS Commands and Reports Manual — APS		190-408-365HDP1	A	MFOS Commands and Reports SDAS Masks Manual Generic
190-408-333IT		MFOS Commands and Reports Manual — APS (SIP Co. Italy)	=	190-408-365ITSP	A	5.2 (Netherlands) MFOS Commands and Reports
190-408-341	1	MFOSOP CCS System Adminis- tration Generic 5.2	_	190-408-365PDP1	• •	SDAS Masks Manual Generic 5.2 (SIP Co. Italy) MFOS Commands and Reports
190-408-3411T		MFOSOP CCS System Adminis- tration Generic 5.2 (SIP Co. Italy) MFOS CCS Commands and Re-	-	190-408-365PDP1	Ŷ	SDAS Masks Manual Generic 5.2 (Poland)
 190-408-343 190-408-343IT 	1	ports Manual Generic 5.2 MFOS CCS Commands and Re-		190-408-371	1	MFOS Operation and Mainte- nance Procedural Manual Sub-
130-400-04511		ports Manual Generic 5.2 (SIP Co. Italy)				system Administration Generic 5.2
190-408-351	1	MFOSOP TFS Subsystem Ad- ministration Generic 5.2		190-408-373	1	MFOS Commands and Reports Manual TTS Generic 5.2
190-408-3511T;		MFOSOP TFS Subsystem Ad- ministration Generic 5.2 (SIP Co. Italy)	•	190-408-381	1	MFOS Operation and Mainte- nance Procedural Manual TNS Subsystem Administration Gen- eric 5.2
190-408-352	1	MFOS Maintenance and Pro- cedures Manual — TFS User Guide	•	190-408-382	1	MFOS Operations TNS User Manual Generic 5.2
■ 190-408-352IT	SP A	MFOS Maintenance and Pro- cedures Manual — TFS User Guide (SIP Co. Italy)		190-408-383	1	MFOS Commands and Reports Manual TNS Generic 5.2
190-408-353	1	MFOSCR TFS Commands and Reports Manual Generic 5.2	~-	MFOS Software R 190-408-412	eleaso 1	e 5.3 Documents MFOS SCS Routine and Correc-
■ 190-408-353IT	SP A	MFOSCR TFS Commands and Reports Manual Generic 5.2 (SIP Co. Italy)		1 170-400-412	I	tive Maintenance Operation Maintenance Procedures

November 1993

	Number	Issue	Subject		Number	lssuc	Subject
	190-408-462	1	MFOS SDAS User — Operation and Maintenance Procedures	•=	190-408-623	1	MFOS SMS — Commands and Reports, Volumes 1 and 2
	190-4 08-471	1	MFOS Operation and Mainte- nance Procedures — TTS SSA/User	•=	190-408-631	1	MFOS 6.1 APS Subsystem Ad- ministrator — Operation and Maintenance Procedures
	190-408-473	1	MFOS TTS — Commands and Reports	•	190-408-632	1	MFOS 6.1 APS User — Opera- tion and Maintenance Pro-
	190-408-482	1	MDOS TTS User — Operation and Maintenance Procedures	•8	190-408-633	1	cedures MFOS 6.1 APS — Commands and Reports
	190-408-483	1	MFOS TNS — Commands and Reports	•8	190 -4 08-641	1	MFOS CCS Subsystem Admini trator and User — Operation an Maintenance Procedures
	MFOS Software	Release	5.4 Documents		190-408-643	1	MFOS CCS User - Operation
•	190-408-501	1	MFOS 5.4 Functions Manual	-	190-406-643	1	and Maintenance Procedures
•8	190-408-511	1	MFOS 5.4 SCS Software Instal- lation	190-	410 NETSTAR		
•	190-408-512	1	MFOS 5.4 SCS Routine Mainte- nance MFOS 5.4 SCS Commands and		190-410-301	1	NETSTAR Workstation Guide -
-	190-408-512 190-408-524	1	Reports MFOS 5.4 DCRS System Ad-		190-410-303	1	BT V3 NETSTAR Console Users Guid V1
-	190-408-525	1	ministration V1 MEOS 5.4 DCRS User Guide V1	•	190-410-411	2	NETSTAR Workstation User Guide
	190-408-525	1	MFOS 5.4 DCRS Commands			2	NETSTAR Console User Guide
	190-408-531	1	and Reports MFOS 5.4 APS System Adminis-	•1	190-410-413 190-410-511	1	NETSTAR Console User Guide NETSTAR Workstation User Guide (Italcable Phase 2)
	190-408-532	1	tration MFOS 5.4 APS User Guide		190-410-513	1	NETSTAR Console User Guide (Italcable Phase 2)
•	190-408-533	1	MFOS 5.4 APS Commands and Reports				
•8	190-408-541	1	MFOS 5.4 CCS System Adminis- tration	190-	2.3	al Netv	vork Management) Generic
	MFOS Softward	Release	6.1 Decuments	•	190-422-007	1	Common Platform Input Mes- sages
	190-408-601	1	MFOS 6.1 SCS Functions -				
			Overview and Reference		TNM Surveillan		
•	190-408-611	1	MFOS 6.1 SCS Software Instal- lation — Operation and Mainte-	•2	190-422-100	1	TSM (TNM Surveillance Modul User Guide
			nance Procedures	•8	190-422-101	1	TSM Administrator Guide
-	190-408-612	1	MFOS 6.1 SCS Routine and Corrective Maintenance —	•	190-422-102	1	TSM Description
			Operation and Maintenance Pro-	•	190-422-103	1	TSM Input Messages
			cedures	•2 •2	190-422-104 190-422-107	1	TSM Output Messages TSM Transition
•	190-408-613	1	MFOS 6.1 SCS Commands and Reports	-		-	
•=	190-408-621	1	MFOS 6.1 SMS Subsystem Ad-		TSM Applicatio		
			ministrator — Operation and Maintenance Procedures		190-422-109	1	TSM Application Guide — Co tains 1AEAPS, 1A ESS, 1 ESS 2 ESS, 2B ESS, 2STP, and 3
	190-408-622	1	MFOS SMS User Guide — Operation and Maintanance Pro- cedures				ESS ESS, 28 ESS, 251P, and 3

November 1993

	Number	lssu	•	Number	lasu	•
•	190-422-116	1	TSM Application Guide — Con- tains 4EAPS, 4ESS, 4ETOC, 5EMML, and 5EPDS	190-510-062	2	Individual Circuit Usage Record ing Subsystem
_	100 400 101			190-510-100	2	Description
•=	190-422-121	1	TSM Application Guide — Con- tains BILLDATS, D5, DACS, DACS 2, DACS 3, DACS 4, DA-	190-510-200	2	Descriptive Supplement for Net- work Maintenance
			TAKIT , DATAKIT II, DMS 10, and DMS 100	190-510-202	1	Traffic Data Converter SD- 3B213-01 — Description
•	190-422-131	1	TSM Application Guide — Con- tains GTD-5, NCP, NDB, PSS, SELF, and UDCI	1 9 0-510-203	1	Pollable Data Terminal No. 1A (PDT-1A) SD-3B232-01 — Description
•=	190-422-141	1	SCCS 13.3.1 to TNM Generic 2	190-510-204	2	Central Unit — Operating Pro- cedures
			Data Base Upgrade Guide	190-510-205	2	Central Unit — Trouble Sec- tionalizingp
	TNM Integratio					
	190-422-200	1	TIM User Guide	Traffic Data Co	nverters	
	190-422-201	1	TIM Administrator Guide	190-510-211	2	SD-3B213-01 - Remote Tests
	190-422-202 190-422-203	1	TIM Description TIM Output Messages	190-510-212	2	SD-3B213-01 Tests at Con- verter Location
				Addendum	1	
	TNM/TSM/TIM	l Feature	Packages	190-510-213	2	SD-3B213-01 - Trouble-
	190-422-300	1	TNMTRAN Feature Package			Locating Procedures
0 2	190-422-301	1	SS7(DSC) Feature Package	190-510-214	2	SD-3B213-01 — Connection Ve
•	190-422-302	1	SS7 Feature Package			rification Tests — Using Input Pulser SD-3B221- 01
•	190-422-303	1	NTMOS Host I/F Feature Pack-	190-510-215	2	SD-3B213-01 Connection Ve
9 2	190-422-304	1	age Event Correlation Ph. 1 Feature	190-510-215	2	rification Tests — Using Test Se SD-3B220-01
			Package	190-510-216	2	SD-3B213-01 and SD-95968-0 — Channel Definition and Vali-
	5XPRESSTM (Th					dation
	190-422-322 190-422-323	1 1	5XPRESS (TNM) User Guide 5XPRESS Switch Maintenance Expert 2.3 — Administration	190-510-217	2	SD-3B213-01 Associated With Traffic Usage Recorder (TUR) SD-95738-01 Equipped With In
			Guide			dividual Circuit Usage Recorder (ICUR) Through Tests From Central Control Unit (CCU)
-5 E	ngineering and	d Admi	nistration Systems			Central Control Only (CCO)
100	510 FADAC /	-	ring and Administrative Data	Pollable Data T	erminal	s — PDT-1A and PDT-2A
190-	Acquisition			190-510-221	1	PDT-1A SD-3B232-01 — Re- mote Tests
0	190-510-020	1	Pollable Data Terminal No. 2A	190-510-222	1	PDT-1A SD-2B232-01 - Tests
			(PDT-2A) — Data Collection Re- quirements	190-510-223	1	PDT-1A SD-3B232-01 — Trou- ble Locating Procedures
0	190-510 -0 60	1	Load Measurement Facilities — General Description — Network Design	190-510-225	1	PDT-2A With PDT-1A Output Format Used With EADAS — Description
0	190-510-061	3	Determination of Quantities — Network Switching Engineering	190-510-226	1	PDT-2A Operation With EADAS — Tests and Trouble Locating

November 1993

	Number	Issue	Subject		Number	Issue	Subject
	System Informat and Messages)	ion (Ger	eric, Definitions, Maintenance,	190	-511 EADAS 1/ Data Acquisi		eering and Administrative stem — 1A)
0	190-510-406	1	Implementation — Coordination		-		Load Measurement Facilities -
0	190-510-410	1	Central Control Unit Operation	0	190-511-060	2	Description and Determination
0	190-510-411	1	Load EADAS Generic — Posi- tion Practice				Quantities - Network Switchin Engineering - Operational Su
0	190-510-412	1	Supply, Modily, and Verify Sys- tem Definitions Position Prac-		190-511-100	1	port Systems Description
			tice		190-511-101	1	230A Repeater SD-5P001-01
0	190-510-413	1	Maintain Magnetic Tape for				Description
			Downstream Processing - Posi-		190-511-201	1	Operating Procedures
0	190-510-416	1	tion Practice Dial Administrator Teletypewriter Operation		190-511-202	2	Trouble Sectionalizing
	190-510-418	1	System Definitions	190	-512 EADAS/N	ORGE	N (Engineering and Admin
	190-510-420	1	Surveillance Applications				tion System — Network
	190-510-440	1	Operational Maintenance		Operations I	Report C	Generator)
9	190-510-441	1	Operational Maintenance Sys- tem Messages Catalog	•	190-512-000	1	General Description — Miscel laneous Systems
	T			0	190-512-005	1	NORGEN — Record Base — Management and Administrati
•	Training Manua 190-510-470	115 and G	Training Administration Guide				- Miscellaneous Systems
•	190-510-471	1	Instructor's Guide — Central Control Unit Management Train-	0	190-512-010	1	NORGEN CCU Management and Administration — Miscel- laneous Systems
•	190-510-472	1	ing Student Manual — Central Con-	0	19 0-512-015	1	Network Terminal Operations
			trol Unit Management Training				
0	190-510-473	1	Instructor's Guide — Central Control Unit Clerical Training	•	Reports 190-512-020	3	1/1A ESS Switches - Descri
•	190-510-474	1	Student Manual - Central Con-		190-512-020	5	tion
Ŭ	190-310-474		trol Unit Clerical Training	0	190-512-0 21	3	1/1A ESS Switches Record Base, Calculation and Report
	190-510-475	1	Dial Administrator's Student Manual				Cross-Reference
0	190-510-476	1	Dial Administrator's Training Monitor's Guide	0	190-512-022	3	No. 2/2B ESS Switches — Description
				0	190-512-023	3	2/2B ESS Switches — Record Base, Calculation, and Report
	Usage Recordin	•	Individual Cimuit Llagge Boood				Cross-Reference
0	190-510-501	2	Individual Circuit Usage Recod- ing - General Description — No.	0	190-512-030	3	Step-by-Step - Description
			1		190-512-031	3	Step-by-Step - Record Base
0	190-510-504	1	Implementation — Job Ordering and Coordination — Individual				Calculation, and Report Cros Reference
~	100-510-520	1	Circuit Usage Recorder System Definitions — Individual	0	190-512-032	3	Step-by-Step Pollable Data T minal (PDT) — Description
0	190-510-520	1	Circuit Usage Recorder	0	190-512-033	3	Step-by-Step Pollable Data T minal (PDT) — Record Base Calculation, and Report Cross Reference
							Leiei eilce

Page 22

Number lssue Subject Subject Number Issue **190-512-03**5 4 No. 1 Crossbar - Record Base, 190-520-014 1 Complex Service Order Assign 0 ment — No. 5XB and No. 5 ETS — Telephone Number Manage-Calculation, and Report Cross-Reference ment Crossbar Tandem - Description ۵ 190-512-036 3 0 190-520-015 1 Complex Service Order Assign-Crossbar Tandem - Record . 190-512-037 3 ment — Step-by-Step Telephone Number Management Base, Calculation, and Report Cross-Reference Text Editor (TED) - File • 190-520-017 2 190-512-038 No. 5 Crossbar Description, Administration, and • 190-512-039 4 No. 5 Crossbar - Record Base. Input Procedures for Complex Calculations, and Report Cross-Service Assignment (CSA) and Reference Non-CSA Applications Trunking - Description 190-512-040 . з 0 190-520-020 Miscellaneous Number Assign-1 Trunking — Record Base, Calcu-lation, and Report Cross-3 190-512-041 . ment - Telephone Number Management Reference 190-520-021 COSMOS/PREMISES Informa 2 tion System (PREMIS) Interface 190-514 SONDS (Small Office Network Data System) - Telephone Number Manage and PDT-2A (Pollable Data Terminal No. 2A) ment 190-520-030 1 Overview and System Reports -1 PDT-2A - Data Collection Re-190-514-020 0 Line Equipment Management Entity Loading - Line Equip-190-520-032 1 190-514-060 2 PDT-2A - Determination of ment Management Quantitie Line Equipment Transfers -190-520-034 1 190-514-101 з SONDS Using PDT-2A --Line Equipment Management Description and Operation Assignments - Complex Ser- 190-520-035 1 2 SONDS Using PDT-2A - Tests 190-514-301 vice Orders - Line Equipment and Trouble Locating Pro-Management cedures Class of Service Allocation -190-520-036 1 Line Equipment Management 190-519 NAC (Network Administration Center) Service Evaluation Assignment 190-520-037 1 - Description 1 Center Evaluation — Premises Information System (PREMIS) 190-519-600 190-520-040 2 General Overview --- Data Base Maintenance Procedures 190-520-041 2 Discrepancy Identification -190-520 COSMOS (Computer System for Main Frame Data Base Maintenance Pro-Operations) - Network Administration cedures Discrepancy Corrective Transac-tions — Data Base Maintenance 190-520-005 5 Operational Review - Pro-190-520-042 3 • cedures Procedures Operational Review — Generic 9.0 Procedures 190-520-006 1 190-520-050 System Backup Procedures 0 1 190-520-051 2 Responsibilities for Area/Dial ø Addendum Transfers - Description 190-520-007 Dedicated Inside Plant (DIP) Ad-2 190-520-060 1 Centrex Management - Guide ministration - Guidelines 190-520-010 1 Overview and System Reports lines System Description and Adminis-190-520-100 2 **Telephone Number Management** 2 Telephone Number Aging tration 190-520-011 Frame Management --- Adminis-190-520-220 1 Telephone Number Management trative Guidelines and Pro-2 Type and Status Changes - 190-520-013 cedures Telephone Number Management

November 1993

Numerical Index, Division 190

Page 23

AT&T 190-000-000, Issue 45

AT&T 190-000-000, Issue 45

	Number	Issue	Subject		Number	Issue	Subject	
190-521 RMAS (Remote Memory Administration Sys- tem) and RMAP (Remote Memory Administra-					190-540-415 2 Data Base — Office a ing File Construction		Data Base — Office and Trunk- ing File Construction	
tion Position)				190-540-418		3	General Description CRT Displa System	
1	90-521-101	1	RMAP - Description	0	190-540-419	4	Trunk Group Pages CRT	
1	90-521-200	2	RMAS — Description				Display System	
	90-521-201	1	RMAP — Operating Procedures	0	190-540-420	1	Display System — Machine Data	
	90-521-202	2	RMAP — Trouble Sectionalizing	-	100 6 40 401	3	Displays Control Pages - Display System	
	ddendum	1		0	190-540-421	3	- Operations Support Systems	
	90-521-203	1	RMAP — Acceptance Tests	0	190-540-422	з	Input and Monitor Pages -	
	90-521-211	1	RMAS — Operating Procedures	•	100 0 10 121	•	Cathode Ray Tube Display Sys-	
1	90-521-212	1	RMAS — Trouble Isolation and Recovery Procedures				tem — Description	
1	90-521-213	1	RMAS - Acceptance Test Pro-	0	190-540-423	2	Exception Pages — Cathode	
	55 52 7 2 10	•	cedures				Ray Tube Display System — Description	
1	90-521-214	1	RMAS — Retrolit Procedures	•	190-540-424	3	Analysis Pages - CRT Display	
				•	190-040-424	5	System - Description	
190-54	10 EADAS/N	M (Eng	ineering and Administrative	•	190-540-425	1	Machine Data Pages - CRT	
	Data Acquisi	ition Sy	stem/Network Management)				Display System — General	
o 1	90-540-060	1	Network Management				Description	
	90-540-100	4	Description	0	190-540-426	1	No. 4XB Machine Data Summar — CRT Display Pages	
	90-540-200	2	Descriptive Supplement for Net-	•	190-540-427	1	4ESS Switch Machine Data	
			work Maintenance	•	190-340-427	•	Summary - CRT Display Page	
1	90-540-201	2	Central Unit - Maintenance		190-540-429	1	No. 5 Crossbar Machine Data	
			Operation Procedures				Summary - Cathode Ray Tube	
1	90-540-202	1	Central Unit — Trouble Sec- tionalizing EADAS/NM				Display Pages Description	
	90-540-203	2	Wall Display Board - Assign-		190-540-430	1	No. 1 Crossbar Machine Data Summary — Cathode Ray Tube	
	50-540-205	2	ment Guidelines				Display Page Description	
1	90-540-204	1	Wall Display Board - Tests		190-540-431	1	Step-by-Step Machine Data	
1	90-540-205	2	Interfaces - Integration Pro-				Summary - Cathode Ray Tube	
			cedures and Tests				Display Page Description	
0 1	90-540-401	1	System Description	0	190-540-432	2	1/1A ESS Switches Cathode Ra	
0 1	90-540-406	2	Network Exception Display				Tube (CRT) Display Page Description	
			Board	0	190-540-434	1	1 ESS Traffic Direction - CRT	
0 1	90-540-408	1	Central Control Unit — Adminis- trative Procedures — Operating	•	130-340-434		Display Page	
			Support Systems	0	190-540-437	з	Reroute Package - Description	
0 1	90-540-409	2	Load Generic Program - Posi-	0	190-540-470	1	Central Control Unit Operations	
			tion Practice				- Training Administration Guide	
1	90-540-410	2	Load, Create, Install, and Back		190-540-471	1	Instructor Guide — Central Con-	
			Up the Data Base - Position				trol Unit Clerical Training	
. .	00 640 411	2	Practice General Central Control Unit	0	190-540-472	1	Central Control Unit Operations Training	
•	190-540-411	Z	(CCU) Operations — Position					
			Guide					
	90-540-414	3	Data Base Encoding Instructions					

Page 24

Numerical Index, Division 190

AT&T 190-000-000, Issue 45

 Number
 Issue
 Subject

 190-7
 Integrated and Force Administration System

 190-701
 IFFAS (Integrated Facilities and Force Administration System)

 190-701-100
 1
 Description and Operation 190-701-201

 190-701-201
 1
 Trouble-Locating Procedures

November 1993

Bonus

) 		Toll Fraud Action Report	M-637 (3-8	
Main Billed No		_			
Billed Name			_ D Post Billing		
Tel. No. In Question			_ 🛛 Calling Card		
			3rd Number		
Date Of Customer Inquiry _			_		
Reported By		CBR No			
Reported To		Date			
Dept		Tel. No			
Action Taken	DBAC Contact Name	Date	Order Number	Date Issued	
Pin Change					
CC Canceled					
TBE Entered					
Cust. Refused Deterrent	t Action		and the second second	C. Salartana	

End of Issue #2



Any Questions?

Editorial and Rants

How to Piss off Hippies / Wackos / Nutcases

During those "Fur is Murder" rallies, point out that fur occurs naturally in nature and will biodegrade when in the garbage. Unlike the fake "plastic" clothes they are wearing, which are made from cancer–causing chemicals and will be around for 10,000 years to come – killing thousands of animals who will choke on them.

During those "Save the Whales" rallies, point out that the people who kill whales use their *entire* remains for goods & services. Even the whale blubber is used. Unlike the rich, pampered hippy that goes through 14 cans of hair spray (artificial) a day just to look good on TV.

During those "Stop the Oil Tankers" rallies, point out that oil occurs naturally in nature. It's really just liquid solar energy. It's been in the ground for over 100 million years or so. It rises to the surface (tar pits) and has killed animals and plants for millions of years. It's also used to produce the plastic in your nutcase CDs and DVDs.

During those "Nuclear Power is Bad" rallies, point out the entire universe is a fucking nuclear waste dump, including the sun, which radiates dangerous energy of all kinds. Humans have these things called "brains", lets start using them.