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.

```
      Editor : multiplx zine@gbppr.org
Distribution : http://zine.gbppr.org
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 IRC Channel : #gbppr on irc.freenode.net  No, I'm never around.
```

Table of Contents

DMS−100 Residential Line CLASS Office Data

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.

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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,         Class Feature Name
                   AR, CALLOG,        This field is the key to the table.  Enter a CLASS
                   CMWI,              feature as described below:
                   CNAB,
                   CNAMD,             * ACB (Automatic Call Back)
                   CNDB, CND,         * ACRJ (Anonymous Call Rejection)
                   COT, DDN,          * AR (Automatic Recall)
                   DRCW,              * CALLOG (Call Logging)
                   DSCWID,            * CMWI (CLASS Message Waiting Indicator)
                   SCA, SCF,          * CNAB (Calling Name Delivery Blocking)
                   SCRJ or            * COT (Customer Originated Trace)
                   SCWID              * CNAMD (Calling Name Delivery)
                                      * CNDB (Calling Name Delivery Blocking)
                                      * CND (Calling Number Delivery)
                                      * DN (Calling Number Delivery Dialable)
                                      * DRCW (Distinctive Ringing/Call Waiting)
                                      * DSCWID (Spontaneous Call Waiting Identification
                                        with Disposition)
                                      * SCA (Selective Call Acceptance)
                                      * SCF (Selective Call Forwarding)
                                      * SCRJ (Selective Call Rejection)
                                      * SCWID (Spontaneous Call Waiting Identification)
--------------------------------------------------------------------------------
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.
--------------------------------------------------------------------------------
-continued-
```

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```
--------------------------------------------------------------------------------
Field or
Subfield            Entry            Explanation
--------------------------------------------------------------------------------
ACCESS              SUBSCR           Feature Access
                    or               This field determines who can access the
                    UNIVER           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,       Class Feature Name
                    AR, CALLOG,      Enter a CLASS feature and datafill its
                    CMWI,            refinements as described below:
                    CNAB,
                    CNAMD,           Enter ACB and datafill refinements on page 5.
                    CNDB, CND,       Enter ACRJ and datafill refinements on page 8.
                    COT, DDN,        Enter AR and datafill refinements on page 8.
                    DRCW,            Enter CALLOG and datafill refinements on page 13.
                    DSCWID,          Enter CMWI and datafill refinements on page 14.
                    SCA, SCF,        Enter CNAB and datafill refinements on page 15.
                    SCRJ or          Enter COT and datafill refinements on page 17.
                    SCWID            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 DRCW and datafill refinements on page 22.
                                     Enter DSCWID and datafill refinements on page 23.
                                     Enter SCA and datafill refinements on page 23.
                                     Enter SCF and datafill refinements on page 24.
                                     Enter SCRJ and datafill refinements on page 23.
                                     Enter SCWID and datafill refinements on page 26.
--------------------------------------------------------------------------------
−end−
```

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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.

```
--------------------------------------------------------------------------------
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 ACB and the
                    AMA              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 position.

                                     The default is 5.
--------------------------------------------------------------------------------
T5                  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.
--------------------------------------------------------------------------------
T6                  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 terminating
                                     switch.

                                     The default is 30.
--------------------------------------------------------------------------------
-continued-
```

```
------------------------------------------------------------------------------
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: T11 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             Ring Cycle
                                      If the entry in field FEATNAME is ACB, datafill
                                      this refinement.  Enter the number of 6 second ring
                                      cycles that recall ringing is given.

                                      Note: T8 is set equal to field RINGCYCL x 6 +
                                      5 seconds.

                                      The default is 5.
------------------------------------------------------------------------------
-continued-
```

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```
--------------------------------------------------------------------------------
Field or
Subfield              Entry              Explanation
--------------------------------------------------------------------------------
RINGAPPL             1 to 12            Ring Apply
                                        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             Coin Line
                     or                 If the entry in field FEATNAME is ACB, datafill
                     DENY               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             Hunt Line
                     or                 If the entry in field FEATNAME is ACB, datafill
                     DENY               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             Private Branch Exchange Line
                     or                 If the entry in field FEATNAME is ACB, datafill
                     DENY               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.
--------------------------------------------------------------------------------
-continued-
```

```
-------------------------------------------------------------------------------
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.
-------------------------------------------------------------------------------
-continued-
```

```
---------------------------------------------------------------------------
Field or
Subfield            Entry           Explanation
---------------------------------------------------------------------------
```

Field or Subfield	Entry	Explanation
T2	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 position. 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.
T6	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 terminating switch. The default is 30.
T10	60 to 180	*Time 10* 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.

−continued−

```
-------------------------------------------------------------------------------
Field or
Subfield            Entry            Explanation
-------------------------------------------------------------------------------
```

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:** T11 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	*Ring Cycle* If the entry in field FEATNAME is AR, datafill this refinement. Enter the number of 6 second ring 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	*Ring Apply* 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.

```
-------------------------------------------------------------------------------
```
−continued−

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```
--------------------------------------------------------------------------------
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         Coin Line
                    or             If the entry in field FEATNAME is AR, datafill
                    DENY           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         Hunt Line
                    or             If the entry in field FEATNAME is AR, datafill
                    DENY           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         Private Branch Exchange Line
                    or             If the entry in field FEATNAME is AR, datafill
                    DENY           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.
--------------------------------------------------------------------------------
-continued-
```

DMS−100 Residential Line CLASS Office Data

```
--------------------------------------------------------------------------------
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        Activation Level
                    or              If the entry in field FEATNAME is AR, datafill
                    TWOLEVEL        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 times
                                    that a subscriber may enter the wrong input during two-
                                    level activation.  If this number is exceeded then the
                                    call is routed to NACK (nil-acknowledgement) treatment.
--------------------------------------------------------------------------------
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 times
                                    that a subscriber may allow two-level digit collection
                                    to time out.  If this number is exceeded then the call
                                    is routed to NACK (nil-acknowledgement) treatment.
--------------------------------------------------------------------------------
-end-
```

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      2 to 30           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_             NAME              Call Logging Primary Data
PRIMARY_DATA        or                If the entry in field FEATNAME is CALLOG, datafill
                    NUMBER            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             Message Type
                   or                 If the entry in field FEATNAME is CMWI, datafill
                   MULTIPLE           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.
--------------------------------------------------------------------------------
−end−
```

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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
-------------------------------------------------------------------------------
ANNCS               alphanumeric        Announcement
                    (1 to 16            If the entry in field FEATNAME is CNAB, datafill
                    characters          this refinement.  This field is datafilled with a $
                    or                  (dollar sign) if special dial tone is used for
                    $)                  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.
-------------------------------------------------------------------------------
ANNCCLLI            alphanumeric        Announcement Common Language Location Identifier
                    (1 to 16            If the entry in field FEATNAME is CNAB, datafill
                    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              CND Message Type
                    or                  If the entry in field FEATNAME is CND, datafill
                    MULTIPLE            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      NOAMA            Billing Option
(BCS35-)            or               If the entry in the field FEATNAME is CNDB and the
                    AMA              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     Announcement Common Language Location Identifier
                    (1 to 16         If the entry in field FEATNAME is CNDB, datafill
                    characters)      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.

```
-------------------------------------------------------------------------------
```
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 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, ANNMEMS and DRAMTRK.

```
-------------------------------------------------------------------------------
```
−continued−

```
--------------------------------------------------------------------------------
Field or
Subfield            Entry               Explanation
--------------------------------------------------------------------------------
ACTLEVEL            ONELEVEL            Activation Level
                    or                  If the entry in the field FEATNAME is COT, datafill
                    TWOLEVEL            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
                                        SECLANG.
--------------------------------------------------------------------------------
−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        Announcement Common Language Location Identifier
                    (1 to 16            If the entry in field FEATNAME is COT and the entry
                    characters)         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).
--------------------------------------------------------------------------------
−continued−
```

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```
-------------------------------------------------------------------------------
Field or
Subfield            Entry             Explanation
-------------------------------------------------------------------------------
COTANNID            SCOTCONF          Customer Originated Trace Announcement Identification
                    or                If the entry in the field FEATNAME is COT and the
                    SCOTFAIL          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.
-------------------------------------------------------------------------------
COTCLLI             alphanumeric      Customer Originated Trace CLLI
                    (1 to 16          The field appears on the switch as SECOND_LANGUAGE.
                    characters)       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     Customer Originated Trace Prompt for Feature 1
                   (1 to 16          If the entry in the field FEATNAME is COT and the
                   characters)       entry in refinement ACTLEVEL is TWOLEVEL, datafill
                                     this refinement.  Enter the CLLI of the first
                                     prompting announcement provided to the user during
                                     two-level activation.  This CLLI must be previously
                                     datafilled in tables CLLI, ANNS and ANNMEMS.
-------------------------------------------------------------------------------
COTPRMTN           alphanumeric     Customer Originated Trace Prompt for nth Level
                   (1 to 16          If the entry in the field FEATNAME is COT and the
                   characters)       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 previously
                                     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 entry
                                     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 COTANNID
                                     and COTCLLI as described below.
-------------------------------------------------------------------------------
-continued-
```

```
--------------------------------------------------------------------------------
Field or
Subfield            Entry               Explanation
--------------------------------------------------------------------------------
```

Note: The following fields are for secondary language announcements for successful and
unsuccessful trace. They can be datafilled as follows:

```
                    COT
                    Announcements
                    (field SANNCS)      Datafill
                    --------------      --------
                    0 (zero) COT        Is the secondary language, both entries of a vector
                    announcements       are empty.
--------------------------------------------------------------------------------
                    1 COT               Only one vector entry is datafilled.  It is
                    announcement        qualified with SCOTCONF for successful trace
                                        announcement.  Otherwise, it is qualified with
                                        SCOTFAIL for unsuccessful trace announcement.
--------------------------------------------------------------------------------
                    2 COT               Both vector entries are datafilled.  They are
                    announcements       qualified with SCOTCONF for successful trace
                                        announcement and with SCOTFAIL for unsuccessful
                                        trace announcement.
--------------------------------------------------------------------------------
```

```
SANNCS              alphanumeric        Announcement Common Language Location Identifiers
                    (1 to 16            If the entry in the field FEATNAME is COT and the
                    characters)         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            Customer Originated Trace Announcement Identification
                    or                  If the entry in the field FEATNAME is COT and the
                    SCOTFAIL            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.
--------------------------------------------------------------------------------
```
−continued−

```
----------------------------------------------------------------------------
Field or
Subfield              Entry            Explanation
----------------------------------------------------------------------------
SCOTPRMT1             alphanumeric     Second Language COT Prompt for Feature 1
                     (1 to 16         If the entry in the field FEATNAME is COT and the
                     characters)      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 COT
                                      feature 1.
----------------------------------------------------------------------------
SCOTPRMTN             alphanumeric     Second Language COT Prompt for nth Level
                     (1 to 16         If the entry in the field FEATNAME is COT and the
                     characters)      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        NOAMA            Billing Option
(BCS35−)              or               If the entry in the field FEATNAME is ACB, AR, CNDB,
                     AMA              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       NOAMA               Billing Option
(BCS35-)             or                  If the entry in the field FEATNAME is SCA or SCRJ
                     AMA                 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.
-------------------------------------------------------------------------------
-continued-
```

```
--------------------------------------------------------------------------------
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

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.

```
--------------------------------------------------------------------------------
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 SCF and the
                     AMA              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 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.
--------------------------------------------------------------------------------
SCRNCL              NSCR              Screening Class
(BCS35-)                              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.
--------------------------------------------------------------------------------
-continued-
```

DMS−100 Residential Line CLASS Office Data

```
--------------------------------------------------------------------------------
Field or
Subfield            Entry               Explanation
--------------------------------------------------------------------------------
RINGMEM             NORING              Ring Member
(BCS35−)            RING, or NA         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            1 to 1024           Number of Calls
(BCS35−)                                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−
```

DMS−100 Residential Line CLASS Office Data

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

Field or
Subfield              Entry               Explanation
--------------------------------------------------------------------------------
FNALANN               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        Announcement Common Language Location Identifier
                      (1 to 16            Enter the announcement CLLI for the announcement given
                      characters)         when the subscriber tries to activate the feature to
                                          which the line has not subscribed.  If the feature is
                                          disabled, (field ENABLE set to N) then POTS lines get
                                          PDIL (Partial Dial) treatment and CLASS lines get FNAL
                                          (Feature Not Allowed) treatment.  The CLLI must first
                                          be datafilled in tables CLLI, ANNS, ANNMEM and DRAMTRK.
--------------------------------------------------------------------------------
−end−
```

DMS−100 Residential Line CLASS Office Data

Datafill Example

Example of datafill for table RESOFC are shown below.

```
--------------------------------------------------------------------------------
Datafill Examples for Table RESOFC

--------------------------------------------------------------------------------
Example of a MAP display.
--------------------------------------------------------------------------------
KEY ENABLED
                                                       FEATDATA
                   FNALANN

ACB      Y
    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

COT      Y
    SUBSCR   COT        ONELEVEL   $    N                                           $

DSCWID   N

                                          SUBSCR DSCWID     NILWAITANNC 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.

DMS−100 Residential Line CLASS Office Data

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
--------------------------------------------------------------------------------
```

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.

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.

Wisconsin Bell
AN *AMERITECH* COMPANY

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

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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**

Page 1

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 9   611
Information Metroplan Area 9   1   411
Information - Other than Local
.... 9   1   Area Code (If Required)   555-1212
Employee Locator —
      Metro Milwaukee 678-6271
      All Others Call Toll Free - Dial '1' and Then 393-3542

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

AMACC Net Svcs R4 845 N 35 —————————— 6561
AMARC
    See TNSC (Telecommunications Network Svc Ctr)
API-Ameritech Publishing Inc ———— See Green Pages
ARSB FE Hotline Distb Svcs R111 918 N 26 ———— 0244
ASI-Ameritech Services Inc ———— See Green Pages
ASI Service Consultant ASI
    1 fl N17 W24300 Riverwood Dr Wksh ———— 523-7911
Accident Benefits Benfts R1000 722 N Brdy ———— 3062
Accident Reporting ————————————— 6215
Accounting Standards FASC Admin—
    Accounting Standards ——————————— 6041
    FASC Administration ——————————— 6043
Accounting Stf-Revenue Methods &
   Procedures Acctg Oprns—
    CABS ————————————————— 5829
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    CMR ————————————————— 6444
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    CRIS Message & Toll Billing ——————— 6952
    Revenue Journal Entries ———————— 6935
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    Corr Bills —————————————— 4579
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      MA 9 Report ——————————————— 6459
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Activities Announcement Coordinator ——— 523-8505
Address Changes-Co Mail Sup Svcs 801 N 35 ——— 2414
Administrative Bulletins Adm Svcs 3fl 722 N Brdy ——— 4267
Administrative Support Ctrs (ASC) Adm Svcs—
    Appleton 4321 W College Appl———— 393-3022
    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 Fls ————— 5865
    722 N Broadway—
      1fl ——————————————————— 3435
      3fl ——————————————————— 4195
      5fl ——————————————————— 2098
        Supv Clk ——————————————— 2099
      6fl ——————————————————— 6092
        Supv Clk ——————————————— 4536
      7fl ——————————————————— 4096
        Supv Clk ——————————————— 2140
      8fl ——————————————————— 2785
        Supv Clk ——————————————— 3294
      9fl ——————————————————— 2924
        Supv Clk ——————————————— 4671
      10fl —————————————————— 4088
        Supv Clk ——————————————— 4745
      11fl —————————————————— 6943
        Supv Clk ——————————————— 6771
      12fl —————————————————— 2893
        Supv Clk ——————————————— 2194
      13fl —————————————————— 2344
        Supv Clk ——————————————— 3094

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Administrative Support Ctrs (ASC)—
   722 N Broadway—
    14fl North ————————————————— 2041
    14fl South ————————————————— 3580
    15fl —————————————————————— 2364
      Supv Clk ———————————————— 2828
   740 N Broadway—
    1fl ——————————————————————— 4132
    2fl ——————————————————————— 3409
      Supv Clk ———————————————— 3163
    3fl ——————————————————————— 2375
    4fl ——————————————————————— 3345
    6fl ——————————————————————— 2352
    6fl Supv Clerk ———————————————— 3947
   2140 Davidson Rd Wksh—
    UL/Opr Svcs ————————————————— 2553
    UL/Public Comms ———————————————— 7235
    LL/Engrg ——————————————————— 2209
   200 S Executive Dr Brkfld—
    1fl ———————————————————— 789-3898
    2fl ———————————————————— 789-3972
    4fl ———————————————————— 789-3975
      Supv Clk ————————————— 789-3979
   225 S Executive Dr Brkfld ——————— 797-1686
   3fl East 17950 W Corporate Dr Brkfld ——— 792-8090
    Supv Clk ——————————————— 792-8080
   3fl West 17950 W Corporate Dr Brkfld —— 792-8301
    Supv Clk ——————————————— 792-8344
   2400 Kossow Rd Wksh ———————— 797-1307
    Supv Clk ——————————————— 797-1306
   2600 N Mayfair Rd ——————————————— 3055
    Supv Clk —————————————————— 5681
   804 N Milwaukee—
    3fl ——————————————————————— 4546
      Supv Clk ———————————————— 6200
    4fl ——————————————————————— 4646
      Supv Clk ———————————————— 6200
   3044 S Logan Av ——————————— 747-8645
    Supv Clk —————————————————— 6200
   2fl 733 N Van Buren ——————————— 5770
    Supv Clk —————————————————— 2895
   633 W Wisconsin Av—
    9fl West —————————————————— 7761
    9fl East —————————————————— 7760
    11fl —————————————————————— 0976
    14fl —————————————————————— 3819
      Supv Clk ———————————————— 5709
   2430 10th Av S Milw ———————— 768-5840
   801 N 35 ———————————————————— 2668
   845 N 35—
    G-1 ——————————————————————— 3717
    1-A ——————————————————————— 4530
    1-B ——————————————————————— 3892
      Supv Clk ———————————————— 6716
    2fl ——————————————————————— 6713
   N15 W24250 Riverwood Dr Wksh —————— 3219
    Supv Clk —————————————————— 0057
   N17 W24300 Riverwood Dr Wksh—
    1 Fl ———————————————————— 523-8922
      Supv Clk ————————————— 523-8927
    2 Fl ———————————————————— 523-8938
      Supv Clk ————————————— 523-8949
    3 Fl ———————————————————— 523-8508
      Supv Clk ————————————— 523-8521

General Services Section

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Administrative Support Ctrs (ASC)—
  N17 W24300 Riverwood Dr Wksh—
    Lwr Level -- 523-1576
    11425 W Lake Park Dr Milw ------------------------ 2252
    Supv Clk -- 5825
Advertising Mktg 13fl 722 N Brdy—
  Business Usage -- 2160
  Informative --- 5645
  Public Communications ---------------------------------- 2160
  Residence Svcs --- 3989
Affirmative Action Counselor Pers ---------------------- 2993
Allotments acctg meth ASC G1 845 N 35 ------------------ 4331
Allotments Acctg Oprns 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
    Toll Free-Dial '1' & Then -------------------- 800 924-6988
Annual Report Corp Com 13fl 722 N Brdy ------------------ 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 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 13fl 722 N Brdy ---------------------------------- 0065
  Information 13fl 722 N Brdy ---------------------------- 2310
Assessment Programs Pers ------------------------------ 2301
Audio-Visual Eqpt Adm Svcs ---------------------------- 2936
Auditing Audit 15fl 722 N Brdy ------------------------- 6082
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  Support—
    CRAS/ACE --- 0204
    Data Base Error Correction-IMOS --------------------- 2022
    VCAS --- 0350
    CRSAB Procedures ------------------------------------ 0350
    LMOS Field Support ---------------------------------- 3623
    DSOC Procedures ------------------------------------- 2633
    MLT --- 393-3297
    MTAS -- 0350
    PREDICTOR --- 0204
    TECH DIRECT --- 3653
Automotive Operations Sup Svcs—
  Staff—
    AOSC Data Base Adm ------------------------- 523-8606
    Gasoline Credit Cards Toll Free-Dial '1' &
      Then --- 393-3835
    Fuel Tanks/Pumps --------------------------- 523-8604
  Control Centers—
    Milw Div Toll Free-Dial '1' & Then
      2406 S 111 ----------------------------------- 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
      '1' & Then ----------------------------------- 393-1766
    Madison 316 W Wash Av ------------------------ 252-2645
      Continued On Next Column

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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
      918 N 26 --- 3291
      845 N 35 Toll Free-Dial '1' & Then ------ 393-1766
      N15 W24250 Riverwood Dr Wksh Toll
        Free-Dial '1' & Then ---------------------- 393-1766
      Out Of Hours Emerg No ---------------------- 535-5303
        Or Toll Free-Dial '1' & Then ------------- 393-2447
  Repair Centers—
    Milw Div 2406 S 111 -------------------------------- 0995
    State Div—
      Appleton 2580 American Dr --------------------- 735-3840
      Eau Claire 2716 E Davey ----------------------- 839-5707
      Green Bay 3198 Ridge Rd ----------------------- 433-4099
      Janesville 525 Wright Rd ---------------------- 755-5516
      Madison 316 W Wash Av ------------------------- 252-2399

B

BICS Distb Svcs—
  Appleton—
    -- 735-3206
    Toll Free-Dial '1' & Then --------------------- 393-3206
  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
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      -- 3065
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Billing-Custom & Misc -------- See Custom & Misc Billing
Blue Cross-Blue Shield Claim Inquiries—
   Preferred Svc-Milw --------------------------------- 226-5555
   In-State Inquires
   Toll Free-Dial '1' & Then---------------------- 800 242-7160
Bridging Svc Benfts R1000 722 N Brdy ----------------------3571
Brookfield Cable SOI/IDP Business
   Systems Data Sys --6210
Budget Preparation/Analysis Acctg Oprns ---------------3382
Building Operations Control Ctr (BOCC) sup
  svcs—
   All Building Maintenance & Service
   Toll Free-Dial '1' & Then---------------------- 800 924-5774
   Local --- 523-8611
Business Communication Systems-Product
   Development -- 678-2380
Business Offices—
   See Collection Ctrs
   Or Residential Customer Service Ctrs
Business Retention Studies Pub Affrs
   R120a 740 N Brdy --2660
Business Units Sls & Svc—
   Madison R404 316 W Wash Mdsn--------------------- 252-2077
   Milw 12fl 633 W Wis ---------------------------------------3993
Business Wire Marketing ------------------------------- 678-5765

C

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CATV Project Coordinator Distb Svcs
   3419 W Wis Av ---4638
CBAS Coordinator Net P & E 11fl -----------------------------4497
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C F I Adm Svcs 801 N 35 --2713
CPC/MAC Distb Svcs—
  N17 W24300 Riverwood Dr Wksh
   Toll Free-Dial '1' & Then ------------------------- 393-3124
   Or Call --- 523-8735
CRIS File Proc Acctg Oprns—
  Acctg Error Corr—
   Milw --6763
   State ---6150
   Adj Docu --3667
   CRIS File Guides --6150
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   Milw --6469
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CAGNETS 2140 Davidson Rd --------------------------------------4989
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  Mitchell Service Area—
   281-282-383-384-421-423-481-482-483-
    643-645-647-649-671-672-744-747-
    761-762-764-768-769 ---------------------- 393-1413
   Dispatch/Tstg -- 393-1413
   CTAP -- 393-1417
  Racine Service Area—
   551-552-553-554-631-632-633-634-636-
    637-639-652-654-656-657-658-681-
    694-697-835-859-878-886 -------------- 393-1414
   Dispatch/Tstg -- 393-1414
   CTAP -- 393-1415

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  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 ---------------------- 393-1412
   Dispatch/Tstg --- 393-1412
   CTAP --- 393-1416
Career Counseling Reference Material Pers -- 797-1730
Carrier Services Sls & Svc—
  Interexchange Carrier Svc Ctr (ICSC)
   9fl 633 W Wis Av ---7761
  Interexchange/Intermediary Sales
   14fl 633 W Wis --7780
Cashier Service Treas R1600 722 N Brdy ---------------2014
Central Report Center-Interexchange
  Carriers Net Svcs R310 918 N 26 ------------------------3606
Centralized Line Asgmt System
  (CLAS) Net Svcs R315-D 918 N 26 -----------------------0644
Centralized Mail Remittance (CMR)—
  Mechanical Processing ------------------------------------6792
  Manual Processing --6691
  Process & Control ---6706
Centralized Operations Group (COG) Sls & Svc
  9fl 633 W Wis ---0850
Centralized Repair Svc & Attendant Bureau
  (CRSAB) Distb Svcs 7721 W Fond du Lac Av ------ 535-5068
Centrex Marketing ----------------------------------- 678-2980
Claims—
  Auto 15fl 722 N Brdy ---3670
  Material (ASI)
   1fl N17 W24300 Riverwood Dr Wksh-------------- 523-7925
  Pole & Cable 15fl 722 N Brdy --------------------------------2383
  After 5 PM & Weekends & Holidays ------------------3415
Coin & Coinless Sales & Svc—
  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
Collection Centers—
  Business 11fl 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 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 R101 -----------------------------2356
College Matching Gifts Corp Com—
  Forms 13fl 722 N Brdy --0065
  Information 13fl 722 N Brdy -----------------------------------2310
Commemorative Gifts & Svc Emblems Benfts
  R1000 722 N Brdy --3065
Communications Ctr Adm Svcs—
  Facsimile Assistance --------------------------------------2065
  Or Call Toll Free-Dial '1' & Then -------------- 393-2065
  Facsimile Transmissions --------------------------------6319
  ---6467
Community Relations Corp Com 13fl 722 N Brdy ---------2391
Complaints-EEO Pers 12fl 722 N Brdy -----------------------2993
Complex Business Staff Sls Oprns
  11fl 633 W Wis --3856
Computer Jobs (Batch) Execution Data Sys
  R221 845 N 35 --4666
Computer Operations Data Sys—
  Howell Av 7737 S Howell Av ------------------------------0440
  35th St R221 845 N 35 ---6396
   Computer Output Distb ----------------------------------6855

General Services Section

5	**SERVICES**

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Dining Services Adm Svcs—
  Special Food Arrangements
  Corporate Dining Room Reservations ---------------- 3613
  Catering On Premises—
    4fl 740 N Brdy --- 3026
    4fl 918 N 26 --- 2421
    Lower Level 845 N 35 --------------------------------------- 6323
    Lower Level N17 W24300 Riverwood Dr Wksh- 523-1765
    Madison 10fl 316 W Wash Av Mdsn-------------- 252-2018
    Waukesha 2140 Davidson Rd Wksh ------------- 549-7314
Direct Marketing-Telemarketing Ctr
  1 fl 17950 W Corporate Dr Brkfld ---------------------- 792-8411
Directories Sls Oprns—
  Local-Foreign-Official Telephone Dir
    5611 W Mill Rd Milw ------------------------------------- 462-3458
  Street Address Directories
    1 fl 225 S Exec Dr Brkfld ---------------------------------- 797-1044
  Directory White Pages Operation
    1 fl 225 S Exec Dr Brkfld ---------------------------------- 797-1686
Directory Advertising Service Center (DASC)
  3 fl 200 S Exec Dr Brkfld ---------------------------------- 797-5836
Directory No Administration Center DNAC—
R315-D 918 N 26—
  Stf --- 4488
  Metro South-Fox Valley ---------------------------- 3713
  Metro North-Mdsn-Eu Cl ---------------------------- 3726
Directory Yellow Pages Organization
        See Green Pages-Ameritech Publishing
Disability Plans-LTD Benfts R1000 722 N Brdy --------- 3062
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  12 fl 722 N Brdy -- 2371
  12 fl 722 N Brdy -- 2993
Distributed Computers Data Sys
  N15 W24250 Bell Dr Wksh ---------------------------------- 5995
Distribution Sup Svcs—
801 N 35—
  Mail Label Info --- 2414
  Publications (WB) 2nd One Time Orders --------- 2432
Documentation Coordinator Sup Svcs 801 N 35 ------- 2225
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  Engineering/Technical Drawing Maps &
    Charts 801 N 35 --------------------------------------- 2560
  Or Call Toll Free-Dial '1' Then ------------------ 393-2560
DSOC (Dist Svcs Oprns Ctr) Distb Svcs—
  Madison–Janesville-Eau Claire
    R204 316 W Wash Mdsn----------------------------- 252-5490
  Appleton 5 fl 221 W Wash Appl ----------------------- 730-5010
  Metro North 7721 W Fond du Lac Av ---------------- 358-6179
  Metro South 3045 W Grange Av -------------------- 393-1414

E

EAS Assistance (Executive Administration
System) Data Sys
24 Hours Daily
  -- 4644
EFAP (Employee And Family Assistance
Program)—
  Corporate Coordinator ------------------------------- 3357
  Eau Claire -- 839-5830
  Fox Valley -- 735-3890
  Madison -- 252-2309
  Milw -- 2148
ESAC (Electronic Systems Assistance Ctr) Net
  Svcs R103 918 N 26 --------------------------------------- 3696
EMERGENCY -- 289-0000
Eau Claire Residential Customer Service
  Center 304 S Dewey Eau Claire—
  Managers -- 839-5685
  Toll Free-Dial '1' & Then-------------------- 800 924-1000

Economic Development Pub Affrs ---------------------- 2660
Educational Programs Corp Comm
  13 fl 722 N Brdy --- 6105
Emergency Operating Ctr Hdqtrs Net P & E
  24 Hours A Day
  7 Days A Week
  -- 3181
Employee Activities Pioneer Ofc
  R401 722 N Brdy --- 2446
Employee Booklets & Brochures Corp Com
  13 fl 722 N Brdy --- 2526
Employee Location Information Net Svcs
  2140 Davidson Rd Wksh----------------------------------- 6271
Employee Profile Data Base 5 fl 722 N Brdy ------------- 7860
Employee Verification R267 845 N 35th ----------------- 0927
Employment Ofc Pers—
  Management Employment R101 722 N Brdy --------- 3483
  Regular Or Temporary Help
    Rm 105 845 N 35th
  Toll Free-Dial '1' & Then-------------------- 800 924-3675
Engineering Resource Ctr
  3 fl N17 W24300 Riverwood Dr ---------------------- 523-8513
Environmental Staff ---------------------------- 1-393-2950
Equal Employment Opportunity
  Counselor Pers 12 fl 722 N Brdy --------------------------- 2993
Exchange Carrier Relations External Affrs—
7 fl 722 N Brdy—
  Network Facility Projects --------------------------- 2809
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  9 fl 722 N Brdy -- 3596
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  R205 918 N 26
  Toll Free-Dial '1' & Then -------------------------- 393-2671
FA Personal Code Cards ASC G1 845 N 35 ------------- 6056
Facsimile Assistance Adm Svcs—
  3 fl 722 N Brdy --- 2065
  Or Call Toll Free-Dial '1' & Then -------------- 393-2065
  Facsimile Transmissions -------------------------- 6319
  -- 6467
Facsimile Directories To Order Call Toll
  Free-Dial '1' & Then ------------------------------ 393-2666
Fairway Residential Customer Service
  Center 405 Fairway Brkfld
  Toll Free-Dial '1' & Then-------------------- 800 924-5678
Field Assistance Bureau-CPC/SS Net S S
  FAB Inquiries
  2 fl N17 W24300 Riverwood Dr Wksh--------------- 523-8800
Final Accounts/Pars/Wats—
  Accts Info—
    Advance Payments -------------------------------- 6329
    Collection Report ----------------------------------- 4822
    Deposits -- 4896
    Installment Billing --------------------------------- 6476
    NSF --- 6535
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  Bank Loans & Coml Paper ---------------------------- 3639
  Operations -- 2889
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Floor Space Reports Sup Svcs—
3 fl N 17 W 24300 Riverwood Dr Wksh ------------------ 523-8572
Clk --- 523-8573
Foreign Exchange Cross Boundary Service
Toll Free-Dial '1' & Then
Rm 501 316 W Wash Mdsn ---------------------------- 393-2403
Forms Adm Svcs—
Administration Control & Procurement Of
Company Forms 801 N 35 ---------------------------- 2713
Or Call Toll Free-Dial '1' & Then -------------- 393-3676
Forms Clerk Adm Svcs 801 N 35 ----------------------------- 6731
434 Orders Sup Svcs -- 2432
Frame Rooms-Service Orders Net Svcs—
Aetna Ct Bldg
257-258-259-453-475-476-771-774-
778 --- 771-0024
Brdy Bldg
224-271-272-273-276-277-278-289-
347-765 --- 273-0024
E Capitol Dr Bldg
229-332-961-962-963-964 ----------------- 964-0024
Cedarburg Bldg 243-375-377 ------------------- 377-0024
Cleveland Av Bldg
321-327-541-543-545-546 ----------------- 543-0024
County Line Rd Bldg 242-354-355 ----------- 354-0024
Fairway Dr Bldg 782-784-785-786 ----------- 785-0024
Fond du Lac Av Bldg
353-358-461-462-463-464-466-527 --- 466-0024
Forest Home Av Bldg 425-529 ------------------ 425-0024
Good Hope Rd Bldg 228-241-351-352 ----- 352-0024
Hartland 367-538-966 ----------------------------- 367-0024
Muskego Bldg 422-679 ---------------------------- 422-0024
Oconomowoc Bldg 567-569 ------------------------------ 4318
Park Place Bldg 359 11301 W Calumet Milw ---- 359-0022
Pilgrim Rd Bldg 251-255 ------------------------- 251-0024
252-781-783 --------------------------------------- 781-0024
Port Washington Bldg 284
301 W Grand Av Pt Wash -------------------------------- 4101
Sussex 246 --- 246-0022
Wis Av Bldg 542-544-547-549 ---------------- 549-7666
E Wis Av Bldg 691 --------------------------------- 691-0024
N 4th St Bldg 263-264-265-372-374-562 - 265-0024
N 26th St Bldg
342-344-395-399-456-678-799-931-
933 --- 344-0024
S 26th St Bldg
383-384-643-645-647-671-672 ----------- 672-0024
N 41st St Bldg
442-444-445-447-638-871-873 ----------- 449-0008
Furniture & Ofc Eqpt Sup Svcs—
Budget-261C Capital
3 fl N 17 W 24300 Riverwood Dr Wksh-------------- 523-8567
New Purchases -- 523-8568
Used-Storage & Refurbishing
3 fl N 17 W 24300 Riverwood Dr Wksh-------------- 523-8569
Clk --- 523-8571
Furniture Moves & Transfers ------------------ 1 393-Furn
Moves-Internal R 150 722 N Brdy ------------------------ 2100

G

Garage ---------------------------- **See Automotive Operations**
General Bulletins Adm Svcs 3 fl 722 N Brdy ------------------ 4267
Government Relations Pub Affrs—
Federal/State Madison ----------------------------- 252-2621
Local --- 2545
Graphics Art & Composition Adm Svcs
801 N 35 --- 2608
Or Call Toll Free-Dial '1' & Then -------------- 393-2608

Green Bay Residential Customer Service
Center 205 S Jefferson Grn By—
Managers -- 433-4041
Toll Free-Dial '1' & Then -------------------- 800 924-5678
Green Sheet Corp Com --- 2372
Group Life Benfts R1000 722 N Brdy ------------------------ 3571
Guard Sup Svcs—
722 N Brdy --- 2328
804 N Milw -- 289-1811
N 15 W 24250 Riverwood Dr Wksh------------------------------ 7118
N 17 W 24300 Riverwood Dr Wksh----------------------- 523-5016
918 N 26 --- 3291
845 N 35 --- 6169
316 W Washington—
Mifflin -- 252-2551
W Washington ----------------------------------- 252-2406
221 W Wash Appl --- 735-3328

H

Handicapped Services -------- **See Special Needs Center**
Health Assessment Coordinator ----------------- 678-4590
Health Insurance Plans Benfts
R1000 722 N Brdy -- 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 Security 15 fl 722 N Brdy ------------------------------ 3408
IIN Marketing --- 678-4044
ISSC Net Svcs
Interfunctional Special Services
Coordination
R406 918 N 26 --- 3911
Idea Connection Process Personnl
ASC 12 722 N Brdy -- 4332
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845 N 35—
Marketing Information Systems—
CRIS Reports Mktg IDP ---------------------------------- 6229
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Support) -- 4333
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Interior Design Sup Svcs -------------------------------- 523-8566
Internal Auditing Audit 15 fl 722 N Brdy ---------------------- 6082

7	SERVICES	INTERNAL F—M

Internal Financial Reports Acctg Oprns -------------------- 2076

J

Job Function Code Administration
ASC-1B 845 N 35 Milw -- 6043
Junior Achievement Corp Comm 13 fl 722 N Brdy -------- 6105

L

Leaves Of Absence Benfts R1000 722 N Brdy ---------- 4471
Legal Dept R1608 722 N Brdy -------------------------------- 2129
Legislation Pub Affrs—
  Federal/State Madison ------------------------------- 252-2621
  Local -- 2545
Liability Insurance Secy ------------------------------------ 2331
Lobby Entrance Sup Svcs—
  722 N Brdy --- 2328
  918 N 26 -- 3291
  Parking Lot 845 N 35 --------------------------------- 6169
  East 845 N 35 -- 6633
  221 W Wash Appl ------------------------------------- 735-3328
Loop Assignment Ctrs Distb Svcs—
  Capital-316 W Wash Av Mdsn—
    LAC—
      (414)
        245-248-279-472-473-563-674-728-
        763
      (608) 882-883
      --- 252-2816
    ESS -- 252-2707
    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 ----------- 800 472-6414
    S O Receipt-Batch ----------------------------- 252-2041
  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
      --- 735-3930
    RCC (Recent Change Ctr) -------------------- 735-3272
    No Facs -- 735-3063
      (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
      --- 839-5772
    Or Toll Free-Dial '1' & Then ----------- 800 472-6669

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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 --- 929-1070
  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 ------------------------- 535-5305
      Fax -- 535-5334

M

MAC/LAC Distb Svcs—
  4 fl 221 W Wash Appleton—
    (414)—
      566-721-722-725-727-729-730-731-
      734-735-738-739
    --- 735-3930
    (715)—
      258-341-344-345-346-582-732-735
    --- 735-3930
  Asst Mgr -- 735-3065
  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

M A—MEDICAL   **SERVICES**   **8**

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MAC/LAC—
- **R304 316 W Wash Av Madison—**
  - **(715)—**
    - 232-235-239-273-373-386-392-394-398-399-425-532-549-561-644-682-723-742-746-749
    - 779-832-833-834-835-836-839-893
  - **(815)—**
    - 389
  - Field Asst ———————————————— 252-2033
  - So Beloit Ill Field Asst ——————————— 362-3705
  - Or Call Toll Free-Dial '1' & Then ————— 393-2280
  - S O Clk ———————————————————— 252-2041
  - Supv —————————————————————— 252-2040
- **Metro South DSOC-3045 W Grange Av—**
  - **Lakeshore—**
    - Mitchell-281-282-382-383-384-421-423-456-481-482-483-643-645-647-649-671-672-744-747-761-764-768-769
    - 789-799 Call ——————————————— 761-4001
    - Racine-551-552-553-554-631-633-634-636-637-639-652-654-656-657-658-681-694-697-835-859-878
    - 886 Toll Free-Dial '1' & Then ————— 393-2286
    - Waukesha-254-321-327-422-425-521-529-541-542-543-544-545-546-547-548-549-662-679-691-782-784-785-786
    - 792-796-797 Call ——————————— 761-4001
- **CPC/MAC** Dist Svcs—
  - N17 W24300 Riverwood Dr Wksh
  - Toll Free-Dial '1' & Then ———————— 393-3124
  - Or Call ——————————————————— 523-8735
- **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
    - Field Asst —————————————————— 466-9928
    - Mgr ————————————————————— 535-5042
- **RCC (Recent Change Center) Metro**
  - **South—**
    - 3045 West Grange Av Milw ——————— 761-0987
    - Fax ————————————————————— 761-4896
- **MAC Help Line** Distb Svcs—
  - 8fl 722 N Brdy ———————————————— 3940
  - Out Of Hours/Bellboy ————————— 935-6892
- **MITRE Field Support Group** Acctg Oprns
  - R261 845 N 35 ———————————————— 0178
- **MMIS** Mktg 2fl 804 N Milw ————————— 2519

MMOC
- See TNSC (Telecommunications Network Svc Ctr)

Madison Business Sales & Service
- Ctr Sls Oprns 316 W Wash Mdsn ——————— 252-2077

Madison Residential Customer Service
- **Center Rm 504 316 W Wash Mdsn—**
  - Managers ———————————————— 252-2110
  - Toll Free-Dial '1' & Then ——————— 800 924-1000

Mail Rooms Sup Svcs—
- Appleton 221 W Wash Av Appl —————— 735-3310
- Supv Clk —————————————————— 730-5127
- Madison 316 W Wash Av Mdsn —————— 252-2390
- **Milwaukee—**
  - R110 740 N Brdy ———————————————— 2733
  - 918 N 26 ——————————————————— 6085
  - R139 845 N 35 ————————————————— 6289
- Oshkosh 315 Algoma Blvd Osh ————————— 735-3092
- Waukesha N17 W24300 Riverwood Dr ———— 523-8925

Mailing Label Information (RC And/Or
- **Unique Lists)** Sup Svcs 801 N 35 ——————— 2414

Maintenance Engineering-Central Ofc Eqpt
- Net Svcs—
  - Change Notices/Circuit Modifications ————— 1048
  - Switching Eqpt & Power ————————— 3507

Major Action Corp Comm 13fl 722 N Brdy ————— 6105

Management Employment Pers
- R101 722 N Brdy ———————————————— 2146

Management Job Evaluation Pers
- 12fl 722 N Brdy ——————————————— 2010

Management Relocation Pers 12fl 722 N Brdy ——— 2010

Management Requisition Line—
- ——————————————————————— 6828
- **Or**
  - Toll Free-Dial '1' & Then ——————— 800 924-5000

Management Requisitions (EXTERNAL)
- 5fl 722 N Brdy ———————————————— 4963

Management Requisitions (INTERNAL)
- 5fl 722 N Broadway ——————————— 0869

Marketing Budgets Mktg 2fl 804 N Milw ————— 2750

Marketing Education Ctr Mktg—
- 3rd Fl 17950 W Corporate Dr Brkfld —————— 792-8226
- **3rd Fl 17950 W Corporate Dr Brkfld—**
  - Computer Room ——————————— 792-8227
  - Library ————————————————— 792-8228

Marketing Locator Ctr Sls & Svc
- 3fl East 17950 W Corporate Dr Brkfld ———— 792-8094

Marketing Results Mktg 2fl 804 N Milw —————— 2519

Marketing Support Data Sys—
- CRIS & MKIS Reports ————————— 789-3900
- Microcomputer Support Helpline ——————— 0341

Marketing Technical Support ——————— 678-2489

Matching Gifts Corp Com—
- Forms 13fl 722 N Brdy ————————————— 0065
- Information 13fl 722 N Brdy ——————————— 2310

Materials Management ASI—
- **Cable Distribution/Transportation**
  - 313 S Curtis Rd ———————————————— 3529
- **Cable Management** 313 S Curtis Rd ————— 3512
- **Distribution—**
  - **Milw—**
    - Day 313 S Curtis Rd ————————————— 4458
    - Night 313 S Curtis Rd ———————————— 2870
  - Eau Claire 930 Maiden Av Eau Cl ————— 839-5577
- **Out Of Hours Contact CRASB**
  - 313 S Curtis Rd ————————————— 535-5068

Mechanization Help Line Data Sys
- 6fl 740 N Brdy ———————————————— 6777

Medical Dept
- See Health Safety And Environmental Protection

Medical Insurance Benfts R1000 722 N Brdy ———— 3065

9	SERVICES	MESSAGE—P

Message Investigation Ctr Net Svcs
   315 Algoma Blvd Osh ------------------------------- 236-5510
Message Processing & Ind Co Settlements
   Acctg Oprns—
   ALM Cntrl Desk ------------------------------------- 5653
   AMA Cntrl Desk ------------------------------------- 4327
   AMA Receipt --------------------------------------- 4328
   Ind Co Settlement -------------------------------- 6408
   Manual Messages --------------------------------- 6565
   Meeting Arrangements ------------------------- 2887
Mgmt Selection Sys --------- See Empl Profile Data Base
Micro Computers Data Sys
   N15 W24250 Riverwood Dr Wksh --------------------- 5995
Microfilm-Fiche Adm Svcs—
   801 N 35 -- 3216
   Or Call Toll Free-Dial '1' & Then -------------- 393-3216
Micrographics Ctr Adm Svcs—
   801 N 35—
     Com Svcs --------------------------------------- 3216
     Software Support ----------------------------- 3597
     Source Documents & Security ------------- 3216
Microwave Radio Net S S R205 918 N 26 -------- 393-2671
Mileage Measurement Sls & Svc
   R602 316 W Wash Av Mdsn -------------------------- 252-2208
Milw Business Sales & Service Ctr
   12fl 633 W Wis
   Toll Free-Dial '1' & Then -------------------- 800 924-2000
Milw Residence Marketing Center Mktg
   405 Fairway Dr Brkfld
Minicomputer
   See TNSC (Telecommunications Network Svc Ctr)
Minority & Women's Business Enterprise
   Program ASI
   1fl N17 W24300 Riverwood Dr Wksh ---------------- 523-7914
Mobile Radio Mtce Channels (Official Svc
   Only) Net Svcs—
   Appleton 2601 W 2 Appl ----------------------- 735-3807
   Eau Claire 930 Malden Av Eau Cl -------------- 839-5582
Milwaukee-Waukesha-West Bend-Lake
   Geneva RADCOM (Contract) -------------- 771-6900
Motor Pool Reservations
             See Automotive Operations
Motor Vehicles -------------- **See Automotive Operations**

N

NCC Data Sys—
   Data Network Operations-Pewaukee
     N15 W24250 Riverwood Dr Wksh ---------------- 7639
   Data Network Operations-Howell
     7737 S Howell Av ------------------------------- 0507
   Help Desk ------------------------------------- 4644
NDCC/EADAS Net Svcs R103 918 N 26 ------------- 3332
Network Control Ctr (Corp Data
   Svcs) Data Sys ------------------------------ 4644
Network Management Center Net Svcs
   R314 918 N 26 --------------------------------------- 3211
Network Operations Planning Ctr
   (NOPC) Data Sys R430 740 N Brdy ------------- 6123
Network Service Center Net Svcs
   R314 918 N 26 --------------------------------------- 3211
New Product Development Marketing -------- 678-2380
New Products Support Data Sys
   N15 W24250 Bell Dr Wksh --------------------------- 0612
News Line Corp Com—
   Coordinator ----------------------------------- 2372
   Recording -------------------------------------- 3511
   Or Toll Free-Dial '1' & Then ---------------- 393-3511

Notary Public Secy—
   R1600 722 N Brdy -------------------------------------- 3196
   R1608 722 N Brdy -------------------------------------- 2129
Number List Service Sls & Svc ------------------------- 2349
Number Services Support Information Services
   Off Tel Dir White Pages 911 ----------------------- 4333

O

Occasional/Temporary Services Employees
   3fl N17 W24300 Riverwood Dr Wksh -------------- 523-8506
   Or Call Toll Free-Dial '1' & Then ------------ 393-1942
Occupational Health Care/Worker's Comp — 678-4656
Office Equipment ASI
   1fl N17 W24300 Riverwood Dr Wksh -------------- 523-7941
Office Supplies & Stationery ASI
   1fl N17 W24300 Riverwood Dr Wksh -------------- 523-7910
Official Communications Services Info Svcs—
   N15 W24250 Riverwood Dr Wksh
   Voice—
     Business Office ------------------------------- 4919
     Or Toll Free-Dial '1' & Then ----------- 393-2666
   Data—
     Network ------------------------------------- 5995
     Workstations ------------------------------- 5995
Ordertyping-Business Sls & Svcs—
   Milw 12fl 633 W Wis Av ------------------------ 0226
   Mdsn R404 316 W Wash Av ------------------- 252-2697
Ordertyping-Residence Sls & Svc—
   Appl 3fl 221 W Wash Av ---------------------- 735-3396
   Eau Claire 314 S Dewey --------------------- 839-5628
   Green Bay ------------------------------- See Appleton
   Hopkins 7721 W Fond du Lac Av ------------ 535-5283
   Mdsn Rm503 316 W Wash Av ---------------- 252-2025
   Summit 2745 S 13 ----------------------------- 5855
Orderwriting-Business Sls Oprns—
   Milw 12fl 633 W Wis Av ------------------------ 3993
   Mdsn R602 316 W Wash Av ------------------- 252-2077
OSPE-Design Centers—
   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 ----------------------------------- 3567
     Skyline ------------------------------------- 0333
   Metro South—
     S 13 St --------------------------------------- 3477
     Racine ------------------------------------- 636-0551
     Waukesha --------------------------------- 4092

P

PICS—
   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

General Services Section

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RCC (Recent Change Ctr)—
  4fl 221 W Wash Appleton—
    (414) Oshkosh-Fond du Lac Area—
      RCC --- 735-3272
    (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
      Eau Claire ------------------------------------- 839-5772
      Or Call Toll Free-Dial '1' & Then ----- 800 472-6669
  R304 316 W Wash Av Madison—
    (414) 567-569
    (608)-241-244-249-262-263-264-266-
      267
      --- 252-2114
      Or Call Toll Free-Dial '1' & Then --------- 393-2114
    (414) 248
    (608) 271-273-274-362-364-365
    (815) 389
      --- 252-2145
      So Beloit III Field Asst ----------------------- 362-2092
      Or Call Toll Free-Dial '1' & Then --------- 393-2115
    (414) 245-279
    (608) 882-883
    (715)-239-392-394-532-644-682-723-
      726
      --- 252-4650
      Or Call Toll Free-Dial '1' & Then --------- 393-2118
    (608) 231-233-238-873
    (715) 386-549-749
      --- 252-2139
      Or Call Toll Free-Dial '1' & Then --------- 393-2117
    (608)—
      221-222-251-252-255-256-257-752-
        754-755-756
      --- 252-2802
      Or Call Toll Free-Dial '1' & Then --------- 393-2116
  Information Questions -------------------------- 252-2707
  Supv --- 252-2660
Metro North Service Area—
  7721 W Fond du Lac Av Milw—
    (414) Skyline Area—
      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
    (414) Moraine Service Area—
      228-241-242-243-246-251-252-255-
        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
Manager -- 678-4151
RCC -- 535-5305
Toll Free-Dial '1' & Then ----------------------- 393-2443
Order Coordination -------------------------------- 535-5306
Fax -- 535-5334

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RCC (Recent Change Ctr)—
  Metro South District—
    3045 West Grange Av Milw—
      (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-
          639-643-645-647-649-652-654-
          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
      859-878-886 ----------------------------------- 761-0987
      Fax --- 761-4896
Radio Mtce Net Svcs R205 918 N 26 ----------------------- 6628
Radio Surveillance Net Svcs R205 918 N 26 ------------- 3316
READY TECH 2400 Kossow Rd Wksh ------------------ 797-1244
Real Estate Taxes Secy R1600 722 N Brdy --------------- 3233
Records Ctrs Adm Svcs—
  Milw 3281 N 41 -- 2271
  Out-Of-Hrs Emergency Call ---------------------- 761-3466
  Or Call Toll Free-Dial '1' & Then -------------- 393-2271
Records Mgmt Adm Svcs
  Corporate Records/Forms
  Retention/Destruction-CFI
  801 N 35 --- 2713
Refunds-Commissions Treas -------------------------------- 6419
Registration-Information Center Classes
  2ND Fl 733 N Van Buren --------------------------------- 6838
Regulatory Appeals Pub R 13fl 722 N Brdy --------------- 2036
Remote Computer Svcs Coord Data Sys
  R152 845 N 35 --- 5750
Repair Svcs
    See Centralized Repair Svc & Attendant Bureau
                    (CRSAB)
Reservations-Travel Agcy—
  Airline, Hotel, Auto
  Call Collect --------------------------------------- 453-7381
  Or Call Toll Free-Dial '1' & Then --------- 800 828-2883
  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 N Brdy --------------------- 3910
  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 839-5685
    Fairway RCSC 405 Fairway Dr Brkfld --------------- 797-1454
    Green Bay RCSC 205 S Jefferson Green
      Bay --- 433-4041
    Hopkins RCSC 7721 W Fond du Lac Av
      Milw --- 535-5292
    Madison RCSC R504 316 W Wash Mdsn - 252-2110
    Summit RCSC 2745 S 13 Milw----------------------- 7826
  Business—
    Madison R404 316 W Wash Mdsn ---------------- 252-2077
    Milw 12fl 633 W Wis Av ------------------------------- 3993
Results Secy 15fl 722 N Brdy --------------------------------- 2331
Right Of Way Matters Distb Svcs 7fl 722 N Brdy ------- 2464

General Services Section

S

SCC (Switching Control Centers) Net Svcs—
- Eau Claire 304 S Dewey Eau Cl ------------------------ 839-5504
- **Fox Valley—**
  - East 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 R313 918 N 26 -------------------------- 3980
- Milw Metro So R32 918 N 26 ---------------------------- 6002
- Racine Metro So 411 7th Rac ---------------------- 636-0620
- Out Of Hours All Locations ---------------------------- 3980

SORD Helpline Data Sys 6fl 740 N Brdy --------------------- 6777

SSARB Net Svcs—
- Pwr Ind Svc Spec Svcs
- Appl
  - Toll Free-Dial '1' & Then -------------------- 800 852-8461
- Mdsn
  - Toll Free-Dial '1' & Then -------------------- 800 362-3969
- Milw -- 678-0886

SSC Net Svcs—
- R310 918 N 26 Milw—
  - Mtce -- 0602
  - Prov-Access --- 6217
  - Prov-Traditional ------------------------------------- 0697
  - Dispatch --- 344-0034
  - Admin -- 0332
- 4fl 221 W Wash Appl—
  - Mtce Toll Free-Dial '1' & Then ------------- 393-3314
  - Prov Toll Free-Dial '1' & Then ------------- 393-3315
- R401 316 W Wash Mdsn—
  - Mtce --- 252-2601
  - Prov-Northwest LATA ----------------------- 252-6910
  - Prov-Southwest 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
- Toll Free-Dial '1' & Then -------------------- 800 248-2411

Schlage Cards Security 15fl 722 N Brdy ------------------- 3415

Scholar Program Corp Comm 13fl 722 N Brdy ------------- 6105

Scrap Disposition ASI
- 1fl N17 W24300 Riverwood Dr Wksh --------------- 523-7911

SEC Report Preparation Acctg Oprns ---------------------- 2585

Security Offices—
- 24 Hour Answering Service
- Daily Weekends & Holidays
- Milwaukee 15fl 722 N Brdy ------------------------------ 3415

Self Study Office
- See Training Center 2400 Kossow Rd Wksh

Service Club Memberships Corp Com
- 13fl 722 N Brdy -- 2594

Service Codes & Rates Distribution Rev ------------- 4750

Service Credit Benfts R1000 722 N Brdy ------------------ 4471

Service Manager Adm Svcs—
- R150 722 N Brdy -- 2885
- Airline Ticket Distribution -------------------------- 2885
- Audio Visual -- 2936
- Conference Planning ----------------------------------- 2887
- Motor Pool Reservations Toll Free-Dial '1'
  - & Then -------------------------------------- 393-1766
- Moves-Internal -- 2100
- Supv Clerk -- 2083
- Travel Agency ------------------------------------- 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
  - CRAS --- 4931
  - CRIS Sale -- 4931
  - DENS --- 6048
  - Equal Access ------------------------------------- 4931
  - LEIS --- 6048
  - MAC/SORD --- 4931
  - MAC In House ------------------------------------- 6446
  - Mech Brochure ------------------------------------ 4931
  - MMS -- 6446
  - Netman --- 6048
  - Oshkosh Toll Error Corr -------------------------- 4931
  - SCP -- 4931
  - SOI/APL -- 6048
  - SORCES --- 6048
  - SORD-TIRKS --------------------------------------- 6048
  - Street Address (MAC) ----------------------------- 4931
  - Telstore --- 4931
  - TPRS --- 6048
  - Or Call Systems Analyst -------------------------- 6210

Service Recognition Prgm Benfts
- R1000 722 N Brdy ------------------------------------ 3065

Shuttle Bus Sup Svcs—
- 722 N Brdy -- 2733
- 845 N 35 -- 6289

Sickness Benefits Benfts R1000 722 N Brdy ------------- 3062

Sickness Disability Coordinator ------------------ 678-3110

SORD Help Line Data Sys 6fl 740 N Brdy -------------------- 6777

Space Planning
- 3fl N17 W24300 Riverwood Dr Wksh ---------------- 523-8562

Speakers Corp Com 13fl 722 N Brdy --------------------------- 2013

Special Needs Center (SNC) Sls Oprns
- R105 740 N Brdy -------------------------------------- 2130

Sponsorships Corp Comm 13fl 722 N Brdy ------------------ 2310

Stationery Supply Service ASI
- 1fl N17 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 R5 845 N 35 ------------- 2631
- Individual Acct Info
  - Toll Free-Dial '1' & Then ------------------- 800 233-1342

Street Address Directory Rental Sls & Svc
- 1fl 225 S Exec Dr Brkfld --------------------------- 797-1044

Student Toll R501 316 W Wash Av Mdsn
- Toll Free-Dial '1' & Then -------------------- 800 924-6988

Suggestions-Idea Connection
- Process Personnl ASC 12 722 N Brdy ------------------- 4332

Summit Residential Customer Service
- Center 2745 S 13—
- Managers -- 7826
- Toll Free-Dial '1' & Then -------------------- 800 924-1000

Supervisor's Reference Guide Pers
- 12fl 722 N Brdy -------------------------------------- 2049

Support Ctr Help-Line Data Sys R160 845 N 35 -------- 7832

Surveillance Center Dist Svcs
- 7721 W Fond Du Lac Av Milw --------------------------- 393-2447

General Services Section

Switch Rooms Net Svcs—
N 2nd Av Bldg 377 ------------------------------------ 6110
N 4th St Bldg 263-264-265-372-374-562 ------- 6110
N 26th St Bldg
   222-342-344-638-678-799-931-933-
   4A -- 6002
S 26th St Bldg
   383-384-643-645-647-671-672 ---------------- 6002
N 41st St Bldg
   442-444-445-447-638-871-873 ---------------- 6110
Aetna Ct Bldg
   257-258-453-475-476-771-774-778 --------- 6002
Brdy Bldg 224-271-272-273-276
   278-289-347-395-765-888 ----------------------- 6110
E Capitol Dr Bldg 332-961-962-963-964 --------- 6110
Cleveland Av Bldg 321-327-541-543-545 -------- 6002
County Line Rd Bldg 242-354-355 ------------------- 6110
Fairway Dr Bldg 782-784-785-786-Tandem
   -- 6002
Fond du Lac Av Bldg
   353-461-462-463-464-466 ----------------------- 6110
Forest Home Av Bldg 425-529 ----------------------- 6002
Good Hope Rd Bldg 241-351-352 -------------------- 6110
Hartford 673 -- 6110
Hy E Bldg 367-538-966 ------------------------------ 6002
Howell Av Bldg 762-764-768 ------------------------ 6002
Jackson 677 -- 6110
Muskego Bldg 422-679 ------------------------------- 6002
Newburg 675 --- 6110
Oconomowoc 567-569 ------------------------------- 6110
Pewaukee 679 --- 6002
Pilgrim Rd Bldg 251-252-255-781-783 ----------- 6110
Port Washington 284 ------------------------------------ 6110
Sussex 246 --- 6110
West Bend 334-338 ------------------------------------ 6110
Wis Av Bldg 542-544-547-549 ------------------------ 6002
E Wis Av Bldg 691 -------------------------------------- 6002
Switching Control Centers Net Svcs—
Eau Claire 304 S Dewey Eau Cl ----------------------- 839-5504
Fox Valley—
   East 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 R313 918 N 26 --------------------- 3980
Milw Metro So R32 918 N 26 -------------------------- 6002
Racine Metro So 411 7th Rac ----------------------- 636-0620
   Out Of Hours All Locations --------------------- 3980
System Letters ------------------------ See Bellcore Letters

T

T-Carrier Net S S R205 918 N 26 ------------------------- 6725
TASC Ctr Net S S 24 hrs R313 918 N 26 ------------------- 2836
TIRM Coordinator Admin Svcs 801 N 35 ------------------ 2225
TNDS/NDCC Net Svcs R120 918 N 26 ---------------------- 3332
TNSC (Telecommunications Network Svc Ctr)
  Net SS—
 918 N 26
   Computer Room ---------------------------------- 0151
   MMOC --- 0151
   Maintenance R101 -------------------------------- 6027
   Operations R114 --------------------------------- 0151
   Technical Support R101 -------------------------- 6190
   Toll Free-Dial '1' & Then -------------------- 393-1867
Tariff Distribution Rev—
  FCC -- 2253
  PSC Of Wis --- 2601
Tariff Information Rev—
  FCC -- 2810
  PSC Of Wis --- 2924

Taxes Secy—
  Real Estate & Special Assessments
   R1600 722 N Brdy ---------------------------------- 3233
Taxes Asst Comptroller—
  Federal Income ----------------------------------- 2342
  State Income -------------------------------------- 3056
  Sales Use & Excise ------------------------------ 2169
  Other --- 2169
Technical Information Coordination Admin
Svcs—
  Bellcore, AT&T
  Telecommunications Vendors Documentation
  (Practices, Drawings, References, Etc)
  Bellcore And Bell System Letters
  Documentation 801 N 35 ------------------------ 3466
  BCR/System Letters 801 N 35 ----------------- 2567
Technical Support-Howell Data Ctr Data Sys
  7737 S Howell Av --------------------------------------- 0482
Telco Credit Unions ------------------- See Credit Unions
Telecommunications Network Svc Ctr
   See TNSC (Telecommunications Network Svc Ctr)
Telemarketing Ctr Sls Oprns
  1 fl 17950 W Corporate Dr Brkfld ---------------------- 792-8411
Telephone Pioneers Ofc R401 722 N Brdy -------------- 2518
Telephone Service
     See Offical Communications Services
Temporary/Occasional Services Employees
  3fl N17 W24300 Riverwood Dr Wksh --------------- 523-8506
  Or Call Toll Free-Dial '1' & Then ------------- 393-1942
Terminal
  Acquisition/Movement/Replacement Data
  Sys N15 W24250 Bell Dr Wksh-------------------------- 5995
Timeshare Coordinator Data Sys
  5 fl 722 N Brdwy -- 2829
TIRKS Adm Net Svcs
  2 Fl N17 W24300 Riverwood Dr Wksh --------------- 523-8830
Tracing Records & File Adm Svcs 801 N 35 ----------- 2219
Training Hmn Rsrcs—
  Training And Development Center—
  2400 Kossow Rd Wksh—
   Milw Area -------------------------------------- 797-1300
   Outside Milw Toll Free-Dial '1' & Then - 393-1300
  Bellcore TEC Registration—
   Milw Area -------------------------------------- 797-1372
   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
  Out-Of-Company Vendor Registration—
   Milw Area -------------------------------------- 797-1368
   Outside Milw Toll Free-Dial '1' & Then - 393-1368
  Ready Tech --------------------------------------- 797-1244
  Self Study Office—
   Milw Area -------------------------------------- 797-1317
   Outside Milw
    Toll Free-Dial '1' & Then ----------------- 393-1317
  Training & Development Center
   Registration—
   Milw Area -------------------------------------- 797-1369
   Outside Milw Toll Free-Dial '1' & Then - 393-1369
Transition Management Net Svcs
  R403 918 N 26 --- 4987
Travel Arrangements-Agcy—
  Airline, Hotel, Auto
   --- 453-7381
  Or Call Toll Free-Dial '1' & Then-------- 800 828-2883
       Continued On Next Page

General Services Section

Continued From Last Page
Travel Arrangements-Agcy—
  24 Hour Emergency Service Toll Free-Dial
  '1' & Then ———————————————— 800 847-4282
Treasury-Cashier's Ofc—
  R 1600 722 N Brdy ————————————————— 2014
  R 5 845 N 35 ————————————————————— 6203
  Corp Credit Card ————————————————— 2014
Trend Corp Com—
  Ads 13fl 722 N Brdy ———————————————— 2013
  Distribution ————————————————————— 2635
  Editor 13fl 722 N Brdy ——————————————— 2372
Trend Bulletin ——————————————————— 2372
Tuition Aid Human Res 5fl 722 N Brdy ——————— 7860
  Or 5fl 722 N Brdy ————————————————— 0869

U

Underground Cable Locating Distb Svcs
  7721 W Fond du Lac Av —————————————— 535-5023
Unemployment Compensation Pers
  12 Fl 722 N Brdy ———————————————————— 4964
United Way 1fl N17 W24300 Riverwood Dr Wksh— 523-8931
Upgrade & Transfer Bureau Pers
  12fl 722 N Brdy ————————————————————— 4338

V

Vehicle Repairs —————— See Automotive Operations
Video Products Marketing ————————————— 678-2380
Videotape Bookings Corp Com 13fl 722 N Brdy ————— 2293
Vision Care Claims—
  Preferred Svc-Milwaukee ————————————— 226-6300
  In-State Inquiries
  Toll Free-Dial '1' & Then —————————— 800 242-7160
Voice Messaging System (VMS) Nss—
  N15 W24250 Riverwood Dr Wksh————————— 7794
  Outage Updates ——————————————————— 0922

Volunteer Speaker Panel Bookings Corp Com
  13fl 722 N Brdy —————————————————————— 2013
Vouchers Acctg Oprns R273 845 N 35 —————————— 6601

W

WATS Coordinator Net Svcs R315-D 918 N 26 ————— 3726
WATS Info Acctg Oprns ————————————————— 6617
White Page Directory Operation
  1fl 225 S Exec Dr Brkfld ———————————— 797-1686
Wire–Business Marketing ————————————— 678-5765
Wire Sales 6812 Aetna Ct ——————————— 1-393-2427
Word Processing Ctrs Adm Svcs—
  3fl 722 N Brdy ———————————————————— 5991
  Or Call Toll Free-Dial '1' & Then ————— 393-1972
  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
  ————————————————————————————— 6467
  3fl 17950 W Corporate Dr Brkfld ————————— 792-8086
  2400 Kossow Rd Wksh————————————————— 797-1308
  N17 W24300 Riverwood Dr Wksh————————— 523-8928
  14fl 633 W Wis Av ————————————————— 4508
Workers Compensation Benfts
  R1000 722 N Brdy ———————————————————— 3062
Workers Compensation Nurse
  R 1005 722 N Brdy ————————————————— 4656

Y

Yellow Pages Directory Organization
        See Green Pages-Ameritech Publishing

Emergency Operations

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

Facsimile:	414 678-2719
Alternate Facsimile:	414 678-6319
EAS Account:	WI _ HEOC,MESSAGE
Emergency FX:	608 251-8446
Alternate Tel. Nos.	414 271-9922
	414 272-0794
	414 332-0210
	414 383-1543
High Frequency Radio	414 678-0019

Emergency Relocation Center (ERC) **414 549-7045**
Room 126, N15 W24250 Bell Dr., Waukesha

Facsimile:	414 549-7680
Emergency FX:	608-251-7380
High Frequency Radio	414-549-7179

Ameritech Services (Ameritech Bell Group)
Functional Point of Contact 708 605-2748
       Home 708 810-0185
       Pager .... 800 759-7243 PIN #70314

Alternate Functional Point of Contact 708 605-3708
       Home 708 888-3733
       Pager .... 800 759-7243 PIN #70313

FAX 708 605-2008

Emergency Operating Center
Room 2C, 1900 E. Golf Road, Floor 2,
Schaumburg, IL 60173
Numbers listed are non-hunting 708 619-5265
                                                  .... 708 619-5266
   .... 708 619-5267
   .... 708 619-5268
   .... 708 619-5269
   .... 708 619-5270
   .... 708 619-5271
   .... 708 619-5272
   .... 708 619-5273
   .... 708 619-5274

Bellcore-Natl. Emergency Control Center (NECC) **201 829-3862**
       -Natl. Emergency Relocation Center (NERC) **201 689-4275**

Facsimile: 201 644-0532

Departmental Operations Centers (Full Time Coverage)

Distribution and Interoffice Facilities - Distribution Services Department

> 24 Hour Surveillance,
> Statewide .... Primary 1 393-2447
> Alternate 414-535-5303

> District Emergency Operating Centers (DEOC)
>> Milwaukee Metro-South 414-678-6262
>>> 3045 W. Grange Ave., 1st Floor - Lge. Conf. Rm.
>> Milwaukee Metro-North 414-535-1955
>>> 7721 W. Fond du Lac Av., 2nd Floor
>> Appleton 414-730-5000
>>> 221 W. Washington St.,
>>> 5th Floor, Conference Room 5A
>> Madison 608-252-2706
>>> 316 W. Washington Av., Lower Level-Conf. Rm.

Information 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 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 414-678-0290
>>> 918 N 26th St., Room 310, Milwaukee

EMERGENCY RESIDENCE NUMBERS

EXECUTIVE—
Allen B K President	228-6992
Durand J O VP-Finance & Secy	784-0118
Geroux J L VP-External Affairs	608 238-9955
Jackson L T VP-Sales & Service	567-4095
Kehm A R VP-Human Resources	421-4554
Valent L R VP & Genl Counsel	317 823-1158
Ware J J Sr Dir-Quality	784-6001

A

ACCOUNTING OPERATIONS—
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	263-4943
Gill S M Stf Mgr-Admin Svcs	786-0658
Haas J A Mgr-Environment	327-4227
Hackbarth Larry Mgr-Micro/TIRM	544-5851
Hauser H Stf Mgr-Admin Svcs	962-5102
Kirk C Stf Aide	633-7770
Klemish D Mgr-Conf & Travel	466-7956
Knight C Mgr-Conf & Travel	444-3367
Krause D M Stf Mgr-Admin Svcs	321-8674
Kromraj B Mgr-Graphics	643-0342
Patterson N Stf Mgr-Admin Svcs	257-2583
Peychal P J Stf Mgr-Envmtl Hlth & Prot	421-9235
Sims R Mgr-Drafting & Distb	444-4342
Skozek G T Mgr-Environment	358-3855
Smith M Stf Supv-Admin Svcs	228-6860
Subel S Mgr-Rcd Ctr & Forms	761-3466
Vitrano R Stf Aide	774-0384

C

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
Kapoclus V F Dist Stf Mgr-Media Comm	421-4153
Moore J E Dist Stf Mgr-Emp Info	277-1196
Regan W F Dist Stf Mgr-Community Relations	375-3898

CORPORATE PLANNING—
Farrar L A Stf Mgr-Corp Plng	462-4616
Valaika George Director-Corp Plng	962-4335

D

DISTRIBUTION SERVICES—
Nelson T K Genl Mgr-Distb Svcs	782-2383
Anderson K S Area Mgr-Distb Svcs	337-9193
Borgen D W Area Mgr-Distb Svcs	608 754-6633
Brophy J R Oprns Mgr-Distb Svcs	788-6336
Butler F T Dist Mgr-Distb Svcs	442-0511
Byrnes J W Mgr-Distb Svcs	642-3290
Constable J R Area Mgr-Distb Svcs	784-1997
Croatt L A Dist Mgr-OSP Eng	332-2526
Duxstad D E Mgr-Distb Svcs	544-1245
Elmergreen K J Oprns Mgr-Distb Svcs	538-1133
Faulkner S C Oprns Mgr-Distb Svcs	608 837-1033
Frey M Area Mgr-Distb Svcs	782-7559
Goranson Betty Oprns Mgr-Distb Svcs	789-7561
Greuel F P Div Mgr-Distb Svcs	608 273-6528

Continued From Last Column

DISTRIBUTION SERVICES—
Groeschel T G Area Mgr-Distb Svcs	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 Svcs	542-9090
Kauzrich T Area Mgr-Distb Svcs	859-3010
Keller E W Oprns 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	652-4776
Loomis M G Area Mgr-Distb Svcs	735-0485
Lund R A Area Mgr-Distb Svcs	284-5886
Mulkey E J Area Mgr-Distb Svcs	965-2266
Nelson Stanley V Area Mgr-Distb Svcs	608 846-2785
Netzler 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	567-7958
Randolph M J Oprns Mgr-Distb Svcs	332-6707
Riedl P T Dist Mgr-OSP Eng	734-0569
Schoeberle D D Area Mgr-Distb Svcs	608 837-4377
Schoenke T G Area Mgr-Distb Svcs	608 241-4427
Splieth R C Dist 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	786-2237
Wierzba R Area Mgr-Distb Svcs	968-2548
Wyatt B J Oprns Mgr-Distb Svcs	931-8523

E

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 Mgr-ECR	782-0445
Holton J M Mgr-ICS Reviews	968-2065
Langnes R K Stf Supr-ECR	425-2933
Minkel E J Stf Supv-ECR	453-6090
Papara M E Mgr-ECR	639-1188
Perone M F Stf Mgr-ECR	242-4433
Smith G M Stf Mgr-ICS Reviews	282-7323
Spano J M Mgr-ECR	781-6953
Utsey E Stf Mgr ECR	463-7258
Walker R A Director-Reg Affairs	786-2121
Wardman M J Stf Mgr-ECR	549-1187

H

HUMAN RESOURCES—
Kehm A R VP-Human Resources	421-4554
Baumgart W A Director-Trng	547-3198
Gillard R C Div Mgr-Human Resources	782-3077
Hoemke J B Dist Mgr-Human Resources	786-0597

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

DMS–100 Automatic Dial Back

Field Descriptions

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

```
-------------------------------------------------------------------------------
Field Descriptions for Table DIALBACK

Field or
Subfield          Entry             Explanation
-------------------------------------------------------------------------------
ID                alphanumeric      Dial–Back Identifier
                  (up to 16         Enter a dial–back identifier, the key to the table
                  characters)       which is used to identify the Directory Number (DN)
                                    used in the dial–back.
-------------------------------------------------------------------------------
DIRNUM            alphanumeric      Directory Number
                  (up to 30         Enter a dial–back DN.  In addition to the normal
                  characters        digits found in a telephone number, the following
                  with no           special characters are used to control the dialing
                  imbedded          of the number
                  blanks)

                  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.

                  N                 # (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)

                  T                 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        Miscellaneous Information
                      (up to 36           Enter any miscellaneous information that the
                      characters          operating company wishes to associate with the
                      with no             tuple.  For example, the physical location of the
                      imbedded            DN or address.
                      blanks)

                                          Field MISCINFO cannot contain imbedded blanks, since
                                          the blank is used as a terminator in the table editor.
                                          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 Table 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.

DMS−100 Automatic Dial Back

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.

Tables

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 2nd 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 2nd 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 2nd 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

Theoretical Example

Generates a RF carrier signal to prevent a LoJack unit from receiving "enable" instructions.

FREQ = 173.075 MHz
REF = 25,000 Hz
N = 108
A = 11

(108 * 64) + 11 = 6923
6923 * 25,000 = 173.075 MHz

Notes :

RF output is around +17 dBm (50 mW).

Use an old VHF TV antenna for the transmit antenna. Use a 75-to-300 Ω matching transformer.

A Mini-Circuits ROS-200 VCO may be used as a replacement for the Micronetics VCO.

Key :

Resistors in ohms, 5% unless noted (k = 1000)

Everything should be SMT unless noted

NC = Not connected

⊏⊐ Ferrite Bead - type 43

▨ 50 Ω micro stripline

Motorola MC145152 — *PLL*

LM351 — *PLL Loop Filter*

Micronetics M3500-0103 — *VCO*

Mini-Circuits ERA-4 — *RF Amplifier*

Fujitsu MB501 — *Divide-by-64/65*

RF Output (to antenna)

PLL Unlock

2N3906

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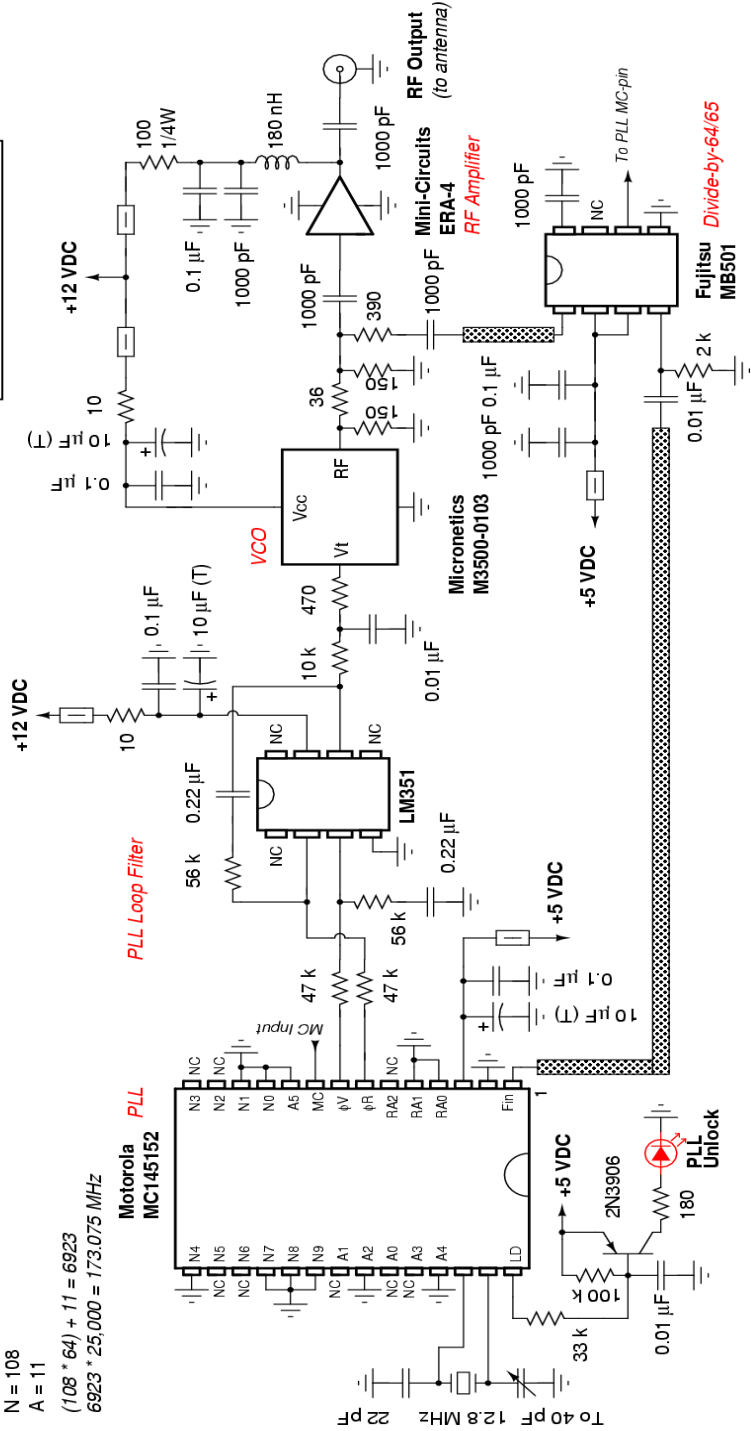
AT&T Operations Support Practice Index
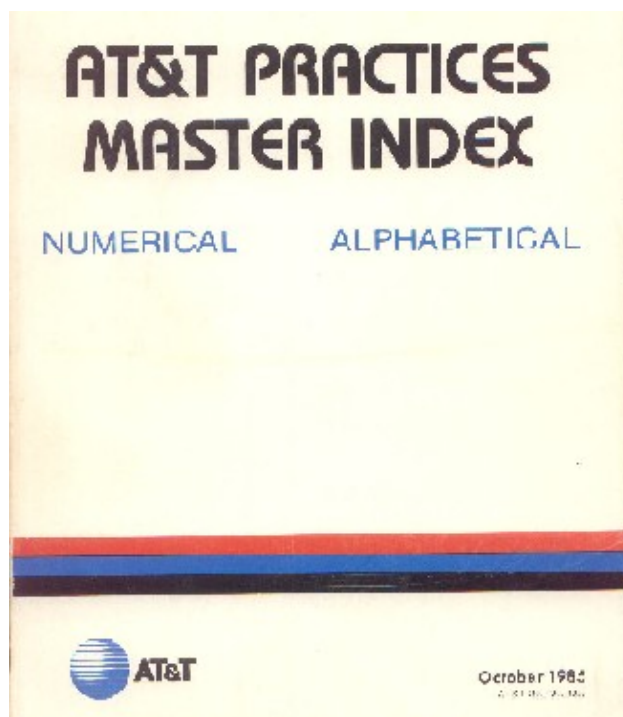
This is a scan of the *Operations Support Systems – Operation, Maintenance, and Administration* section of the *AT&T Practices Master Index*, as shown above.

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.

AT&T Operations Support Practice Index

AT&T

**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 000-000-002. 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 (⊔) 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" (Ⓐ) 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.

3.04 A solid square (■) indicates that distribution of this item is limited.

3.05 A solid circle with an enclosed "1" (❶) 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 (⊥) 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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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:

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190-102-010	2	TOSC Operations and Administration
190-102-015	3	Analysis of Test Results — CAROT Center and Remote User
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190-102-100	3	General System Description
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190-102-103	1	Remote-User Terminal — Description and Operation
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190-102-201	1	Data Base Administration
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190-102-202	2	CAROT 2 Controller Administration
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190-102-203	2	Data Base (Generic 2) — Description and Requirements
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190-102-204	1	Circuit Order Activity — Implementation and Description
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190-102-205	1	Test Editor Program
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190-102-206	2	SELEC Program
190-102-207	1	Report Program Generator (RPG)
▲190-102-301	2	Controller — Generic 2, Issue 3 — Operating Procedures
▲190-102-305	2	Remote User Terminal Operating Procedures
190-102-500	3	System Trouble-Locating Procedures
190-102-501	2	Generic 2, Issue 5 — System Recovery Strategy
190-102-502	1	Remote-User Port Diagnostic Test Descriptions

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190-103 CAROT 2/Generic 3 (2CAROT3), Generic 4 (2CAROT4), Generic 5 (2CAROT5) and Generi6 2CAROT6 (Centralized Automatic Reporting on Trunks)		
190-103-001	1	Centralized Automatic Reporting On Trunks (CAROT) 2CAROT6 — Controller User's Guide (1-93). This manual includes the binder and tabs for practices 190-103-011, 190-103-232, 190-103-231, 190-103-234, 190-103-135, 190-103-522, 190-103-521, and 190-103-520
190-103-002	1	Centralized Automatic Reporting On Trunks (CAROT) 2CAROT6 — Remote User's Terminal Guide (1-93). This manual includes the binder and tabs for practices 190-103-012, 190-103-133, and 190-103-234
190-103-003	1	Centralized Automatic Reporting On Trunks (CAROT) 2CAROT6 — Controller/Remote User's Guide (1-93). This manual includes the binder and tabs for practices 190-103-013, 190-103-130, 190-103-236, 190-103-235, 190-103-233, 190-103-019, 190-103-237, and 190-103-240
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190-103-012	1	Centralized Automatic Reporting On Trunks (CAROT) 2CAROT6 Remote User's Terminal Guide— Introduction (1-93)
190-103-013	1	Centralized Automatic Reporting On Trunks (CAROT) 2CAROT6 Controller/Remote User's Terminal Guide— Introduction (1-93)
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190-103-017	1	2CAROT4 — Analysis of Test Results
190-103-019	1	2CAROT6 — Analysis of Test Results (7-92)

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190-103-105	3	2CAROT3 — CAROT/CMS Interface Description	190-103-212	1	2CAROT4 — Controller Administration
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190-103-110	1	2CAROT4 — General System Description	190-103-214	1	2CAROT4 — Circuit Order Activity — Implementation and Description
190-103-113	1	2CAROT4 — Remote-User Terminal — Description and Operation	190-103-215	1	2CAROT4 — Text Editor Program
190-103-115	1	2CAROT4 — CAROT/CMS Interface Description	190-103-216	1	2CAROT4 — SELEC Program
190-103-116	3	2CAROT4, 2CAROT5, and 2CAROT6 — Remote-User Terminal Operating Instructions — Pocket Guide (7-92)	190-103-217	1	2CAROT4 — Report Program Generator
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			190-103-220	1	2CAROT4 — Installation and Acceptance Procedures
190-103-120	1	2CAROT5 — General System Description	190-103-221	1	2CAROT5 — Data Base Administration
190-103-123	1	2CAROT5 — Remote-User Terminal — Description and Operation	190-103-222	1	2CAROT5 — Controller Administration
190-103-125	1	2CAROT5 — CAROT/CMS Interface Description	190-103-223	1	2CAROT5 — Data Base Description and Transactions
190-103-130	1	2CAROT6 — General System Description (7-92)	190-103-224	1	2CAROT5 — Implementation and Description
190-103-133	1	2CAROT6 — Remote-User Terminal — Description and Operation (7-92)	190-103-225	1	2CAROT5 — Text Editor Program
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			190-103-227	1	2CAROT5 — Report Program Generator
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▲190-103-305	1	2CAROT3 — Remote-User Terminal Operating Procedures
190-103-310	1	2CAROT3 — Console Output Message Manual
▲Addendum	2	
▲190-103-400	1	CAROT 2 Controller — Generics 4 and 5 — Operating Procedures
▲Addendum	2	
▲190-103-405	1	CAROT 2 — Generics 4 and 5 — Remote-User Terminal — Operating Procedures Centralized Auto. Reporting on Trucks
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190-103-501	1	2CAROT3 — System Recovery Strategy
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190-103-510	1	2CAROT5 — Console Output Message Manual
190-103-511	1	2CAROT5 — System Recovery Strategy
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190-104-103	1	Maintenance and Trouble Locating Procedures — 5XB, SXS, and 3 ESS Switch
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Mini-Remote Trunk Test Unit — Acceptance Tests

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Remote Trunk Test Unit — Maintenance and Trouble Locating Procedures

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190-104-502	1	2-Wire 1/1A ESS Switches and 1/1A ESS Switches With HILO 4-Wire Feature
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190-106 MDT (Maintenance Data Transmitter)

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190-106-102	1	SD-28129-01 — Description — No. 5 Crossbar Offices With Office Test Frame (OTF) Arranged for Automatic Trouble Analysis (ATA)
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190-106-311	3	Trouble Locating Procedure — No. 1 Crossbar
190-106-501	2	No. 5 Crossbar Offices With Master Test Frame (MTF) Arranged for Automatic Trouble Analysis (ATA) Acceptance Tests
190-106-502	1	Acceptance Tests — No. 5 Crossbar Offices With Office Test Frame (OTF) Arranged for Automatic Trouble Analysis (ATA)
190-106-511	2	Acceptance Tests — No. 1 Crossbar Offices Arranged for Automatic Trouble Analysis (ATA)

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* PDP is registered trademark of Digital Equipment Corporation

190-107 Programmable Scanner/Distributor — ATA (Automatic Trouble Analysis)

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190-110-305	1	Control Equipment — T Cabinet Operation and Maintenance
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4ESS™ Switch

Number	Issue	Subject
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1A ESS™ Switch

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1 ESS Switch

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190-205-303	3	Locally Defined Operations
190-205-500	2	System Maintenance
190-205-502	2	Remote Maintenance
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■ 190-205-601AC	1	Generic 3 With Generic 4 Enhanced Operations — System Description and Operation
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190-207-100	1	System Administration Manual
190-207-110	1	Input/Output Messages
190-207-200	1	General Operations
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190-208 TRANSVU II Network Surveillance and Control Systems		
190-208-020	1	TRANSVU II Network Surveillance and Control System Planning and Implementation Guide
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■ 190-208-103	2	Field User Reference Manual (8-92)
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■ 190-208-109	2	Output Message Manual (8-92)
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■ 190-208-111	1	TRANSVU II Network Surveillance and Control System — User Reference Manual Rel 3.0 and 3.1 (6-93)
190-208-112	1	TRANSVU Network Surveillance and Control System 3.0 and 3.1 MAP Creation Guide
■ 190-208-113	1	TRANSVU II Network Surveillance and Control System — Field User Reference Manual — Rel 3.0 and 3.1 (6-93)
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■ 190-208-116	1	TRANSVU II Network Surveillance and Control System — Database Administration
190-208-117	1	TRANSVU II Network Surveillance and Control System — User Programmability and Report Generation Manual
■ 190-208-118	1	TRANSVU Network Surveillance and Control System — TNC User Reference Manual — Rel 3.0 and 3.1 (6-93)
■ 190-208-119	1	TRANSVU II Network Surveillance and Control System — Output Message Manual — Rel 3.0 and 3.1 (6-93)
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190-209-021	1	Hub and Hub Expansion Unit Maintenance Guide
190-209-022	2	Satellite Maintenance Guide
● 190-209-023	2	Performance Monitor Maintenance Guide
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190-209-025	1	HUB Installation Guide
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190-209-027	1	Performance Monitor Installation Guide
190-209-101	1	Administration and Operations Manual — 1.1 Documentation
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■ 190-408-112	H	MFOSOP/02E Operation and Maintenance Manual (SCS) Vol. 1
■ 190-408-113	F	IN-MFOSCR/02E Commands and Reports Manual (SCS) Vol. 1
■ 190-408-121	H	IN-MFOSFM/02E Functions Manual (SMS) Vol. 2
■ 190-408-122	H	IN-MFOSOP/02E Operation and Maintenance Manual (SMS) Vol. 2
■ 190-408-123	H	IN-MFOSCR/02E Commands and Reports Manual (SMS) Vol. 2
■ 190-408-124	H	IN-MFOSFM Functions Manual (SMS/DCRS) Vol. 2
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■ 190-408-164KR	F	IN-MFOSCR/02E Commands and Reports Manual (SDAS) (Netherlands) Vol. 6B
■ 190-408-164NL	F	IN-MFOSCR/02E Commands and Reports Manual (SDAS) (Korea) Vol. 6B
■ 190-408-171	F	IN-MFOSFM/02E Functions Manual (TTS) Vol. 7
■ 190-408-172	F	IN-MFOSOP/02E Operation and Maintenance Manual (TTS) Vol. 7
■ 190-408-173	F	IN-MFOSCR/02E Commands and Reports Manual (TTS) Vol. 7
■ 190-408-181	F	IN-MFOSFM/02E Functions Manual (NMS) Vol. 8
■ 190-408-182	F	IN-MFOSOP/02E Operation and Maintenance Manual (NMS) Vol. 8
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■ 190-408-201	E	IN-MFOS Functions Manual Vol.2
■ 190-408-202	D	IN-MFOS SCS (System Controller Subsystem) SSA (Subsystem Administrator) OP (Operations and Maintenance Procedures) Manual
■ 190-408-203	B	IN-MFOS SMS (Switch Maintenance Subsystem) SSA OP
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■ 190-408-205	A	IN-MFOS DCRS (Data Collection and Reporting Subsystem) SSA OP
■ 190-408-206	A	IN-MFOS DCRS User OP
■ 190-408-207	C	IN-MFOS APS (Alarm Processing Subsystem) SSA OP
■ 190-408-208	B	IN-MFOS APS User OP
■ 190-408-209	B	IN-MFOS CCS (Common Communication Subsystem) SSA OP
■ 190-408-210	B	IN-MFOS TFC (Traffic) SSA OP

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■ 190-408-211	B	IN-MFOS TFS User OP
■ 190-408-212	C	IN-MFOS SDAS (Switch Database Acquisition Subsystem) SSA OP
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■ 190-408-217	B	IN-MFOS SCS CR (Commands and Reports Manual)
■ 190-408-218	C	IN-MFOS SMS CR
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■ 190-408-220	C	IN-MFOS APS CR
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■ 190-408-224	D	IN-MFOS SDAS Masks CR
■ 190-408-224HDPT	D	IN-MFOS SDAS Masks CR

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■ 190-408-301	1	MFOS Functions Manual V2 Generic 5.2 (Fast Automatic Restore)
190-408-301ITSP	A	MFOS Operation System Manual (2 vols)
■ 190-408-311	1	MFOS/OP SCS (System Controller Subsystem) Installation Manual V1 Generic 5.2
■ 190-408-311ITSP	1	MFOS/OP SCS (System Controller Subsystem) Installation Manual V1 Generic 5.2 (SIP Co. Italy)
■ 190-408-312	1	MFOS/OP Maintenance Manual V1 Generic 5.2
■ 190-408-313	1	MFOS Commands and Reports SCS Generic 5.2 V1 Generic 5.2
190-408-313ITSP	A	MFOS CRMS Controller Subsystem
■ 190-408-321	1	MFOS/OP SMS (Switch Maintenance Subsystem) Administration Guide Generic 5.2
■ 190-408-321ITSP	A	MFOS/OP SMS (Switch Maintenance Subsystem) Administration Guide Generic 5.2 (SIP Co. Italy)
190-408-322	1	MFOS/OP SMS User Manual Generic 5.2
■ 190-408-322ITSP	A	MFOS/OP SMS User Manual Generic 5.2 (SIP Co. Italy)
■ 190-408-323	1	MFOSCR SMS Manuals V2 Generic 5.2

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■ 190-408-324	1	MFOS/OP DCRS Subsystem Administration Generic 5.2
■ 190-408-325	1	MFOSOP DCRS User Guide v1 Generic 5.2
■ 190-408-326	1	MFOS Data Collection and Reporting Subsystem — Commands and Reports Manual Generic 5.2
■ 190-408-331	1	MFOS APS Operation and Maintenance Procedural Manual Generic 5.2
■ 190-408-331ITSP	A	MFOS APS Operation and Maintenance Procedural Manual Generic 5.2 (SIP Co. Italy)
■ 190-408-332	1	MFOS Operation and Maintenance Procedures Manuas — APS User Operation
■ 190-408-332ITSP	A	MFOS Operation and Maintenance Procedures Manuas — APS User Operation (SIP Co. Italy)
■ 190-408-333	1	MFOS Commands and Reports Manual — APS
■ 190-408-333ITSP	A	MFOS Commands and Reports Manual — APS (SIP Co. Italy)
■ 190-408-341	1	MFOSOP CCS System Administration Generic 5.2
■ 190-408-341ITSP	A	MFOSOP CCS System Administration Generic 5.2 (SIP Co. Italy)
■ 190-408-343	1	MFOS CCS Commands and Reports Manual Generic 5.2
■ 190-408-343ITSP	A	MFOS CCS Commands and Reports Manual Generic 5.2 (SIP Co. Italy)
■ 190-408-351	1	MFOSOP TFS Subsystem Administration Generic 5.2
■ 190-408-351ITSP	A	MFOSOP TFS Subsystem Administration Generic 5.2 (SIP Co. Italy)
■ 190-408-352	1	MFOS Maintenance and Procedures Manual — TFS User Guide
■ 190-408-352ITSP	A	MFOS Maintenance and Procedures Manual — TFS User Guide (SIP Co. Italy)
■ 190-408-353	1	MFOSCR TFS Commands and Reports Manual Generic 5.2
■ 190-408-353ITSP	A	MFOSCR TFS Commands and Reports Manual Generic 5.2 (SIP Co. Italy)

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■ 190-408-361	1	MFOSOP SDAS Subsystem Administration Generic 5.2
■ 190-408-361ITSP	A	MFOSOP SDAS Subsystem Administration Generic 5.2 (SIP Co. Italy)
■ 190-408-362	1	MFOS Operation and Maintenance SDAS User Guide Generic 5.2
■ 190-408-362ITSP	A	MFOS SDAS Subsystem User Guide Generic 5.2 (SIP Co. Italy)
■ 190-408-363	1	MFOSOP SDAS Operation and Maintenance Guide Generic 5.2
■ 190-408-363ITSP	A	MFOS Operation and Maintenance SDAS Commands (SIP Co. Italy)
■ 190-408-364	1	MFOS Commands and Reports Manuals SDAS Generic 5.2
■ 190-408-364ITSP	A	MFOS Commands and Reports Manuals SDAS Generic 5.2 (SIP Co. Italy)
■ 190-408-365	1	MFOS Commands and Reports SDAS Masks Manual Generic 5.2
190-408-365HDPT	A	MFOS Commands and Reports SDAS Masks Manual Generic 5.2 (Netherlands)
■ 190-408-365ITSP	A	MFOS Commands and Reports SDAS Masks Manual Generic 5.2 (SIP Co. Italy)
■ 190-408-365PDPT	A	MFOS Commands and Reports SDAS Masks Manual Generic 5.2 (Poland)
■ 190-408-371	1	MFOS Operation and Maintenance Procedural Manual Subsystem Administration Generic 5.2
■ 190-408-373	1	MFOS Commands and Reports Manual TTS Generic 5.2
■ 190-408-381	1	MFOS Operation and Maintenance Procedural Manual TNS Subsystem Administration Generic 5.2
■ 190-408-382	1	MFOS Operations TNS User Manual Generic 5.2
190-408-383	1	MFOS Commands and Reports Manual TNS Generic 5.2

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■ 190-408-462	1	MFOS SDAS User — Operation and Maintenance Procedures
190-408-471	1	MFOS Operation and Maintenance Procedures — TTS SSA/User
190-408-473	1	MFOS TTS — Commands and Reports
190-408-482	1	MDOS TTS User — Operation and Maintenance Procedures
190-408-483	1	MFOS TNS — Commands and Reports

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●■ 190-408-511	1	MFOS 5.4 SCS Software Installation
●■ 190-408-512	1	MFOS 5.4 SCS Routine Maintenance
●■ 190-408-512	1	MFOS 5.4 SCS Commands and Reports
■ 190-408-524	1	MFOS 5.4 DCRS System Administration V1
●■ 190-408-525	1	MFOS 5.4 DCRS User Guide V1
●■ 190-408-526	1	MFOS 5.4 DCRS Commands and Reports
●■ 190-408-531	1	MFOS 5.4 APS System Administration
●■ 190-408-532	1	MFOS 5.4 APS User Guide
●■ 190-408-533	1	MFOS 5.4 APS Commands and Reports
●■ 190-408-541	1	MFOS 5.4 CCS System Administration

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●■ 190-408-611	1	MFOS 6.1 SCS Software Installation — Operation and Maintenance Procedures
●■ 190-408-612	1	MFOS 6.1 SCS Routine and Corrective Maintenance — Operation and Maintenance Procedures
●■ 190-408-613	1	MFOS 6.1 SCS Commands and Reports
●■ 190-408-621	1	MFOS 6.1 SMS Subsystem Administrator — Operation and Maintenance Procedures
●■ 190-408-622	1	MFOS SMS User Guide — Operation and Maintanance Procedures

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●■ 190-408-631	1	MFOS 6.1 APS Subsystem Administrator — Operation and Maintenance Procedures
●■ 190-408-632	1	MFOS 6.1 APS User — Operation and Maintenance Procedures
●■ 190-408-633	1	MFOS 6.1 APS — Commands and Reports
●■ 190-408-641	1	MFOS CCS Subsystem Administrator and User — Operation and Maintenance Procedures
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■ 190-410-511	1	NETSTAR Workstation User Guide (Italcable Phase 2)
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●■ 190-422-102	1	TSM Description
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❶ 190-510-504	1	Implementation — Job Ordering and Coordination — Individual Circuit Usage Recorder
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● 190-540-420	1	Display System — Machine Data Displays
● 190-540-421	3	Control Pages — Display System — Operations Support Systems
● 190-540-422	3	Input and Monitor Pages — Cathode Ray Tube Display System — Description
● 190-540-423	2	Exception Pages — Cathode Ray Tube Display System — Description
● 190-540-424	3	Analysis Pages — CRT Display System — Description
● 190-540-425	1	Machine Data Pages — CRT Display System — General Description
● 190-540-426	1	No. 4XB Machine Data Summary — CRT Display Pages
● 190-540-427	1	4ESS Switch Machine Data Summary — CRT Display Pages
190-540-429	1	No. 5 Crossbar Machine Data Summary — Cathode Ray Tube Display Pages Description
190-540-430	1	No. 1 Crossbar Machine Data Summary — Cathode Ray Tube Display Page Description
190-540-431	1	Step-by-Step Machine Data Summary — Cathode Ray Tube Display Page Description
● 190-540-432	2	1/1A ESS Switches Cathode Ray Tube (CRT) Display Page Description
● 190-540-434	1	1 ESS Traffic Direction — CRT Display Page
● 190-540-437	3	Reroute Package — Description
● 190-540-470	1	Central Control Unit Operations — Training Administration Guide
190-540-471	1	Instructor Guide — Central Control Unit Clerical Training
● 190-540-472	1	Central Control Unit Operations Training

AT&T Operations Support Practice Index

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	1	Trouble-Locating Procedures

Bonus

Wisconsin Bell
AN *AMERITECH* COMPANY

Suspected Toll Fraud
Deterrent Action Report

M-6377
(3-84)

Main Billed No. _____

Billed Name _____

Tel. No. In Question _____

☐ Pre Billing

☐ Post Billing

☐ Calling Card

☐ 3rd Number

Date Of Customer Inquiry _____

Reported By _____

Reported To _____

Dept _____

CBR No. _____

Date _____

Tel. No. _____

Action Taken	DBAC Contact Name	Date	Order Number	Date Issued
☐ Pin Change				
☐ CC Canceled				
☐ TBE Entered				
☐ Cust. Refused Deterrent Action..........................				

Additional Information/Remarks

_____
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Route To:

MIC Fraud Unit
315 Algoma Blvd.
Oshkosh, WI 54901

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.