

CommTrans®

CommTrans is a complete, self-contained, plug-in communication and translation utility for the IBM AS/400. It receives batch data from:

- Hand held units (Telxon, MSI, Symbol, Azurdata).
- Personal computers (PC's).
- Point-of-sale (POS) systems.
- Other computers (Async, XMODEM, or BiSync).
- AS/400 Disk File or PC Shared Folder.

The received data is saved as a Conversation in the same format as transmitted. **CommTrans** translates the data into files with a different format, and passes them to existing data processing Applications, such as Order Entry, Inventory, Payroll, and Route Tracking.

The formats of the data are defined in Conversation and Application Formats, which are stored in user configured control tables, and are easily and quickly setup or changed without programming. There is no limit to the number of Formats.

CommTrans can also send data automatically from an Application. This could be a confirmation of a previous Order, a file of changed Items, or a price list.

Translation can run:

- Continuously. Data receiving operates concurrently and is not interrupted when data is translated.
- Automatically. No operator intervention is required.
- Manually. Operator can initiate it at any time.

CommTrans uses *Auditran Discriminators* and 202S modems attached to AS/400 Communication Lines to receive from hand holds. OLS can provide a complete out of the box solution, including *Discriminators*, 202S modems, IBM AS/400 Server or Communication Lines, training, and initial Format creation.

The *Auditran Discriminator* instructs the sender to transmit the data and provides the following voice response messages for hand held receiving:

- A confirmation number is spoken if there are no parity errors. The caller gets a positive indication that the transmission was received properly.
- The caller is asked to retransmit if the Conversation has a small number of parity errors. The *Discriminator* attempts to "mirror match" two transmissions to create a single good one.
- The caller is told to hang up and call again if there are a large number of parity errors. The Conversation is saved but is not Translated unless corrected.

As an option, **CommTrans** can receive the Conversation in the AS/400 prior to speaking the confirmation no. Phrases for unidentified data format or invalid Customer No. can also be spoken.

CommTrans is designed for:

- 24/7 operation, with no operator intervention.
- Detecting duplicate Conversations. This avoids double orders.
- Identifying transmitters who have not sent data according to a user defined schedule. A simple display shows who needs a call back.
- Validation of caller's ID when data is received. The user knows immediately who has sent the data.
- Editing Conversation data. Additional subroutines can be added to identify invalid data, which can be corrected before it is translated to the Application.
- Matching Conversation data to the Conversation Format. Data in a format that is different from what is expected is identified for easy correction.
- Displaying two Conversations with transmission errors. An operator can manually create a good one.

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CommTrans®

Communication

CommTrans receives batch data from:

- Hand helds (Telxon, MSI, Symbol).
- Binary synchronous (Bisync) devices.
- Asynchronous (Async) devices.
- XMODEM and XMODEM 1K.

CommTrans configures the AS/400 by creating Line, Controller, and Device Descriptions for the above receiving methods. It can receive data from an AS/400 Disk File or PC Shared Folder.

Receiving normally runs unattended 24/7, but has the flexibility to be started or ended:

- Manually from a control screen.
- Automatically from a CL Program.

The received data from each phone call is saved as a Conversation. All defined Conversation Formats are stored in user configured control tables. As the data is received, it is compared to the Conversation Formats to determine if the data is in a valid format.

Associated with each Conversation is an Other Party, the caller that transmitted the data. The Other Party could be a customer, a salesman, or another trading partner. During receiving, **CommTrans** determines the Other Party No. from the batch data and checks against the Other Party Master File to ensure that it is valid.

CommTrans can also accept data from an Application, and send it to the Other Party the next time he calls in.

A Conversation has a receipt status of good if there are no parity errors and both the Conversation Format and the Other Party No. are valid. During receiving, the data in a good Conversation is compared to the last good Conversation from the same Other Party. If there are more than a user defined no. of identical records, the Conversation is flagged as a Duplicate; it can be held for review, translated as is, or translated after ignoring the duplicated records, depending upon a user option. This means **CommTrans** can prevent duplicated data from being passed to the Application, if the Other Party sends a transmission twice, or fails to clear the file after sending the last transmission.

CommTrans uses 2025 Modems and *Auditran Discriminators* connected to AS/400 Communication Lines to receive data from hand held units and speak conditional voice responses to the caller, including a confirmation no. If a hand held Conversation has 1 or more parity errors but less than 50, the Other Party is asked to resend the transmission without hanging up. During receipt of the second transmission, the *Discriminator* attempts to "mirror match" the two transmissions to make a good one. As an option, the *Auditran Discriminator* can ask for the user to wait for an acknowledgement. **CommTrans** receives the Conversation into the AS/400 prior to

speaking the confirmation no. Phrases for errors for invalid Customer or unidentified data format can be spoken instead of the confirmation no.

Translation

Translation is the process of changing the received data in the Conversation Format into files in an Application Format; the files are then passed to a data processing Application.

Translation can be run:

- Continuously or on demand.
- For selected Application Formats.
- For an individual Conversation.

Translation can be started or ended:

- Manually from a control screen.
- Automatically from a CL Program.

Inquiry

Inquiry displays receipts in sequence by receipt date and time. Options allow viewing of only receipts:

- With parity errors, or invalid Other Party No. or Conversation Format.
- Via one Receiving method.
- From one Communication Line.
- With a certain Conversation Format.
- On a particular Schedule.
- Starting at a different date and time.

The receipts from an Other Party can be displayed as far back as the "no. of days saved", a user entered parameter.

To assist in data validation and correction, the data in a Conversation is separated into records and can be:

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CommTrans , continued

- Edited, changed, added, or deleted.
- Scanned for a character string.
- Displayed starting at a record no.

Custom written subroutines that edit fields in the Conversation data can display errors, like invalid Item No., excessive quantity, or wrong codes. The data can be manually corrected and reedited as often as needed.

If the receipt status of a Conversation is not good, the Translation Status is set to held. After the data is corrected, the Translation Status can be changed to 'ready for translation'. In addition, after a Conversation has been translated, the data can be changed and the Conversation retranslated repeatedly.

In some marginal phone areas, **CommTrans** may not receive a good Conversation after repeated transmissions. However, **CommTrans** can display two Conversations side by side, which allows an operator to manually combine the two Conversations to get one good Conversation.

Management

CommTrans includes the capability of establishing Schedules with multiple cutoffs by day of the week and time. Other Parties can be included on a Schedule. The user can display a Missing Receipts Screen that shows Other Parties that have not transmitted by a particular cutoff date and time in order to call them to determine the problem. This can save considerable time if you presently keep a manual schedule, or help you get more orders

by identifying who has not transmitted as scheduled.

Other Party Master maintenance allows selection of the Conversation Formats in which the Other Party can send data. This allows multiple Conversation Formats with the same header data to be properly detected and translated.

To easily test Conversation Formats, Test Translation displays the Application data created from a Conversation.

Application Formats

The Application Format defines the format of the Translated data that is passed to an existing data processing Application, such as Order Entry, Inventory, Payroll, and Route Tracking. **CommTrans** allows an infinite no. of Application Formats that are stored in user configured control tables.

Features include:

- Multiple Files per Application Format.
- Externally defined or flat Files.
- Multiple Record formats per File and Application Format. Normally, there are Header and Detail Records, but Error, First, Last, and Trailer Records are supported.
- Field specifications including length, no. of decimal positions, data type (alpha, zoned decimal, or packed decimal).
- Data source for a field of a constant, data from a Conversation field, or a **CommTrans** defined system field (date, time, no. of records, etc.)

- Field value unless overridden from a Conversation Field (i.e. if no quantity transmitted, assume 1).

Conversation Formats

The Conversation Format defines the format of the data that is transmitted from the Other Party. A Conversation Format is associated with an Application Format, and is stored in user defined control tables. There is no limit to the no. of Conversation Formats, and multiple Conversation Formats can be translated into one Application Format. Features include:

- Multiple Records per Format.
- Variable or fixed length Records.
- Field specifications of maximum and minimum length (variable length field), optional (field may not be present), and decimal positions.
- Data type of numeric, constant, alphanumeric, non-numeric, signed numeric, and edited numeric.
- Multiple Substitution values.

A Delimiter defines the end of a variable length Record. It can be from 1 to 4 characters, and can be defined by a character (+ - <) or hex (X'0D' for carriage return X'25' for line feed).

A log of Conversations can be printed upon receipt, or from a date and time.

CommTrans is written in RPG for the IBM AS/400 with external screens and files and structured programming. It uses commitment control and has cursor sensitive help text. Source code is included for all programs.

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