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Broadcast Polling Frad with Dial and/or Leased Line Backup – BPF-BU



- Adds backup to the BPF
- Used with the Async Sharing Unit (ASU)
- Backup via dialup or dedicated links
- Automatic backup and restore

DESCRIPTION

The BPF-BU is a special version of the BPF that provides for dial and/or leased line backup for the DCB Broadcast Polling Frad. The remote BPF-BU is the same hardware as the four port unit, the BPF-04. However, the ports are used in a different manner to implement the automatic backup functions. The four async ports are used as follows:

- Port 1 - RTU
- Port 2 - RTU
- Port 3 - Dial backup
- Port 4 - Dedicated link backup

How the backup function works:

The BPF-BU receives data from the host on a regular basis, either user data or a keep alive packet from the host BPF. To keep the remote BPF-BU from going to the backup mode in the absence of user data, the host BPF sends out a keep alive signal to the BPF-BU if there has been no user data for 30 seconds. The keep alive does not interfere with user data. The host BPF must have firmware version 1.7 or higher to insure the unit has the keep alive and can be used with the remote BPF-BU units.

If the data or keep alive fails for 60 seconds, the remote BPF-BU begins the backup process. The BPF-BU first attempts a connection through the Leased Line port if the Leased Line port has RTS asserted. If RTS is not asserted, the BPF-BU used the Dial port, sending an "AT" command out the Dial modem port and looking for an "OK" response. If an "OK" is returned, the BPF-BU sends out the command "ATDS=0", which tells the modem to dial the phone number that is stored in phone number register 0. The user must program the remote modem to dial the appropriate phone number of a host end modem.

The BPF-BU will continue to cycle through the backup choices, trying to establish a connection, until a connection is made or until the frame relay composite link is re-established. Once the Leased Line or Dial modem backup link is established, the BPF-BU channels data from the backup port to the RTU ports. Data from the RTU ports is channeled back to the host via the Leased Line port or Dial modem backup port, whichever port is active. The backup link is dropped and the frame relay link is re-established as soon as a keep alive or user data is received through the frame relay link.

At the host end, an Async sharing Unit (ASU) set to the Backup Mode must be installed. The ASU is installed between the host computer serial port and the host BPF and the host backup modems. The ASU port called the Composite port connects to the host. The ports called the Device ports are connected to the BPF and the Dial modems or the Leased Line devices (radios, modems, etc).

The ASU scans the device ports for RTS. If RTS is high on any device port, the data channel between the Composite and the Device port is opened up. RTS must be forced high at all times between the BPF and the ASU. The green DCB NMP cable, part number 9500023, is used between the ASU and the BPF. To connect the ASU to the modem, an RJ45 line cord and the DCB Async Modem adapter, part number 9802018 is used. With this cable, when the backup modem link is established, the modem DCD is wired to the ASU RTS input and the path is opened between the host computer and the remote device served by that modem.

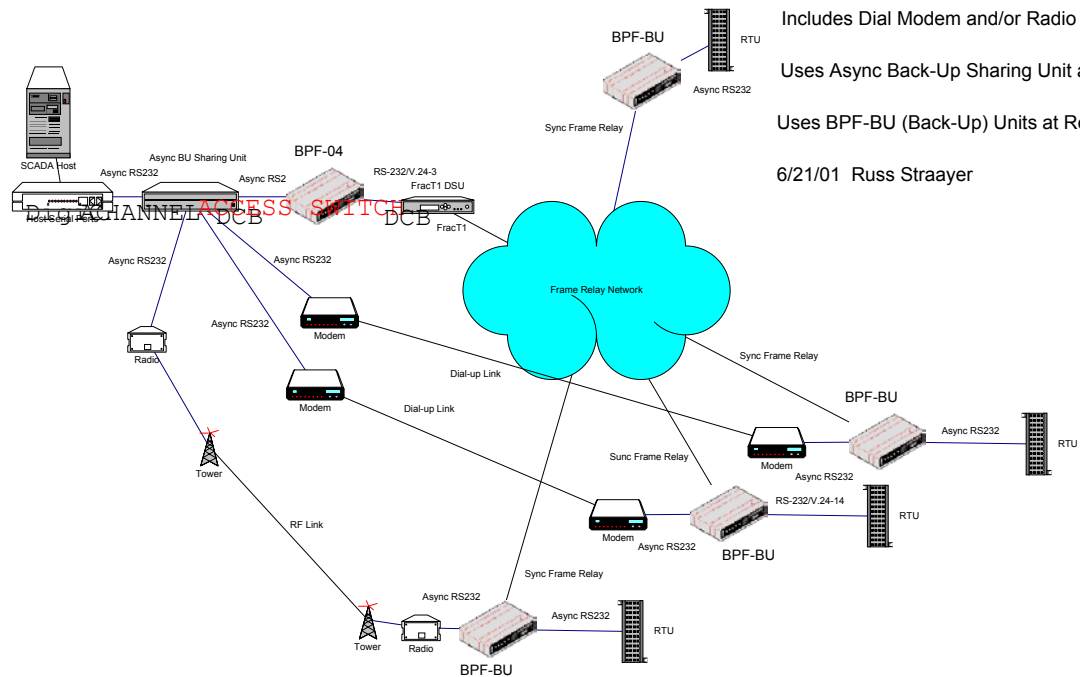
To make the host modem behave properly, the ASU sends out a command string. This command string puts the modem in answer mode, insures that modem DCD follows the call progress and insures that the RS232 interface speed is correct. The command string is sent by the ASU as soon as the ASU is put into Backup mode. Once in Backup mode, the ASU also sends out the string after the ASU is powered on and after the ASU is reset.

BPF-BU Ports:

Primary	----BACKUP-----	----RTU-----
NMP Network	Leased Dialup	2 1

The remote BPF-BU may have an internal DSU/CSU. All backup ports default to a data rate of 9600 bps.

SCADA Frame Relay Network Using the DCB BPF



- Includes Dial Modem and/or Radio Backup
- Uses Async Back-Up Sharing Unit at Host
- Uses BPF-BU (Back-Up) Units at Remote Sites

6/21/01 Russ Straayer

