EXHIBIT 12

INSTALLATION AND OPERATING INSTRUCTION MANUAL, § 2.1033(c)(3)
PARTS LISTS AND TUNE UP INFORMATION, § 2.1033(c)(9)
SCHEMATIC DIAGRAMS, § 2.1033(c)(10)

The ESP1100 Instruction Manual has been supplemented with information pertaining to operation in the high speed data mode. The supplemental sheets are included here; the original instruction manual is on file with the original type acceptance report.

The original instruction manual includes the ESP1100 schematics, parts lists and tune up information.

> **ESP1100 INSTRUCTION MANUAL SUPPLEMENT**
> **Upgrade and Operation of units for Base Station Data Capability**
> **Rev A, April 9, 2001**

1. Introduction

This supplement to the ESP1100 Instruction Manual (MAN-1100-01) describes the upgrade, operation and modem level setting for Base Station data capability of the ESP1100 100W repeater.

2. ESP1100 Upgrade

To upgrade an ESP1100 repeater for Base Station data operation, five (5) socketed chips in the 1000 must be replaced:

C/I CPU PROM (U2)	rev 2.01
TX CAN CPU (U2)	rev 2.00
RX CAN CPU (U2)	rev 2.00
TX CAN DSP PROM (U106)	rev 2.00
RX CAN DSP PROM (U106)	rev 2.00

In addition, transformer T2 on the C/I board must be removed and its input to output terminals shorted on the board.

2. ESP1100 Operation

An ESP1100 outfitted with the above modifications (or units shipped from the factory after June, 2001) include an operational mode called *Base Station* (a.k.a., BASESTN). In this mode, base station modem equipment may be connected to the 1100 to permit the radio to operate as a mobile data or AVL base station.

The interface between the modem and the 1100 is via the ACC2 connector. The pinout is:

1100 ACC2 Pin	Function
1	TXAF
2	RXAF
4	PTT
12	GND

FCC ID: BZ6ESP1100

BASESTN mode does not use an external trunking controller. In BASESTN mode, the 1100 transmits audio present at the ACC2 TXAF pin when keyed from ACC2. Received audio is routed to the ACC2 RX AF pin. Half-second turnoff code bursts are transmitted by the 1100 every 5,10, or 15 minutes to update mobile radio frequency tracking memories.

An abbreviated version of the "Quickstart Procedure" from the 1100 manual page 6-40 is given below, modified for DDS operation.

1.   Determine RF Channel Numbers - same as in 1100 manual

2.   Access Setup/Program Mode - same as in 1100 manual

3.   Program Frequencies - same as in 1100 manual

4.   Select BASESTN Operation:

      a.   Press 7# from the PM= prompt. Display is TRUNKED, CONVENTL, or BASESTN.
      b.   Press 0 until display reads BASESTN.

5.   Press #. Display is AREA=0 or AREA=1. Press 0 or 1 to select the proper area bit for the repeater system.

6.   Press #. Display is HOME=01,02, etc. Enter the normal home channel number for the repeater.

7.   Press #. Display is TOCRT=00,05,10, or 15.

      Press 0 until the display reads the desired time interval (minutes) between automatic turnoff code transmissions. Suggested value = 10 minutes. 00 = no automatic turnoff codes.

8.   Press #. Display is TOTE=N or Y.

      Press 0 so display read TOTE=N. This disables the transmit timeout timer.

9.   Press #, then 99#. Display is ESP1100 and unit is ready for operation in basestation mode.

4. Modem Drive Levels

External modems connected to the ESP1000 should be adjusted for the following peak-to-peak modulation drive levels input to the ACC2 TXAF pin:

Modulation Type	Drive Level, Vpp
1200 bps MSK	400
1200 bps Bell 202	650
2400 bps GMSK	650
2400 bps BPSK	500
4800 bps QPSK	400
DDS 7200 bps	450
DDS 9600 bps	450