

Fax from *In-House Paging Systems cc*

Pro-Call In-House Radio Paging Systems
Herald Waiters' Silent Call Systems

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Pro-Call Local-Page In-House Paging System

The Pro-Call Local-Page In-House Paging System may be used for calling from one to up to 500 personnel on or around the premises, or, by using an optional GSM-modem, it can be used to call around the world.

The system is modular, and may be upgraded in the field by a reasonably qualified person, such as a radio technician, or an IT specialist. The various components are as follows;

▪ **Power-Supply, Housing and Mother-Board.**

All users require this unit.

This unit supplies all the power requirements for the system, and provides a handsome wall-mounted enclosure for all system components.

- The **housing** is fabricated from ABS sheeting, and provision has been made to field-install all the required electronic components without difficulty.
- The **power-supply**, built on the mother-board, supplies 13,8volts DC at 3Amps from a switched-mode regulator - this is used to supply the transmitter/encoder and GSM-modem.
Linear regulators are provided at 5 and 3,3volts DC to supply processors and storage.
A wall-mounted mains transformer converts 250volts AC to 16volts AC, and drives the switched-mode regulator.
- The **mother-board** mounted in the housing, consists of the three regulators mentioned above, as well as sockets into which the optional Ethernet and processor module (described below) may be plugged.
Also on the mother-board are six "box connectors" into which ribbon-cables may be plugged to interface with optional components, such as a transmitter/encoder, and a GSM-modem, etc. RS-232 level convertor/drivers are provided for the six serial ports.

▪ **POCSAG Transmitter/Encoder**

Users wishing to send messages to POCSAG pagers require a transmitter/encoder.

An optional **POCSAG transmitter/encoder** is available on the VHF-High band or the UHF band, providing up to 4-watts. Installed into the housing, two versions of the transmitter/encoder (on each frequency band) are supplied;

- The first version consists of a synthesised transmitter/encoder with a 9-pin D-connector driven by an RS-232 serial input/output.
Also on this version, are 12 programmable dry-contact inputs. These inputs may be programmed to send a specific message to a specific POCSAG pager when an input changes state. Thus, 24 different messages may be sent from alarm-inputs or sensors.
- The second version consists of a synthesised NRZ data transmitter, driven by a cable-mounted POCSAG encoder. The encoder is driven by an RS-232 serial connection with a 9-pin D-connector.
The transmitter is fully programmable for frequency, power output, and transmission modes.

Both versions utilise a proprietary input format to send messages to pagers - details of the protocol are available upon request.

▪ **RF Amplifier**

Users requiring a higher radio frequency output power should install this unit.

An optional **25-watt RF amplifier** available on the VHF-High band or the UHF band may be installed into the housing. It is powered by the switched-mode power supply, and controlled and driven directly from the transmitter/encoder.

▪ **Phone-Page telephone interconnect unit**

Users wishing to use a telephone to send messages require this unit.

The **Phone-Page telephone interconnect unit** connects to a standard analogue telephone extension, and appears to the PABX or POTS exchange line as an analogue telephone. Installed inside the housing, the unit attaches to either the second version of transmitter/encoder described above, or to one of the serial ports on the mother-board when the optional processor has been installed. An RJ-12 socket is provided to connect to the telephone extension.

- When directly connected to the first version described of the transmitter/encoder, up to 100 POCSAG pager "capcodes" may be programmed into the transmitter/encoder, as well as ten pre-programmed "canned" messages. The unit plugs in to the serial port on the transmitter/encoder, and is controlled directly by the transmitter/encoder. Power is supplied via the same interconnecting ribbon cable. Messages may only be sent to POCSAG pagers.
- When the optional processor board has been installed, the Phone-Page unit is plugged into a serial port on the mother-board, and powered through the same ribbon cable. Using our Compu-Page software (described below), the user may enter up to 500 device numbers (POCSAG capcodes for pagers, and cellphone numbers for GSM cellphones), as well as 20 "canned" messages. Users may send messages to any of these 500 devices.

The telephone protocol required to send both variable data, and pre-programmed messages is available upon request.

▪ **Ethernet Interface and Processor Board**

Users wishing to do any of the following require this optional board:

- Send messages over an Ethernet LAN.
- Send messages to GSM cellphones.
- Send messages from multiple personal computers using our Compu-Page software package.
- Use a Phone-Page unit with a transmitter/encoder, and our Compu-Page software package.
- Use a Phone-Page unit with a GSM-modem.
- Add or alter pre-programmed Phone-Page messages on-site.

The Ethernet interface and processor board plugs into two 34-pin dual-in-line sockets on the motherboard, and is powered by its 3.3volt linear regulator. Communication is performed at 10Mbps using the 10Base/T protocol, with a single, fixed IP address, programmed by the manufacturer. An RJ-45 socket is provided to connect a standard LAN cable to the unit.

The processor board drives six RS-232 ports on the mother-board, at this time capable of driving a transmitter/encoder, a GSM-modem, and a Phone-Page unit. The Ethernet stack and embedded code is stored in flash memory on the processor board. Device tables, Phone-Page "canned" messages, and other messages used by the Compu-Page software package are stored in SRAM.

A personal computer equipped with a LAN card operating under Windows/98 or higher is required to load and amend tables loaded into the processor's SRAM, using a suitably licensed version of our Compu-Page software.

▪ **Compu-Page Messaging Software package**

Users desiring any of the following features require a version of this software package;

Features required, and Compu-Page software version >>	Lite	GSM	Profess- ional	Site- Licence
Connection and Control method	RS-232	10Base/T	10Base/T	10Base/T
Maximum number of:				
Pagers	10	500	500	500
GSM Cellphones	0	500	500	500
Pagers and GSM Cellphones	0	500	500	500
Group Calls per Personal Computer	1	0	10	10
Personal Computers	1	0	5	Unlimited
Pre-programmed Alpha/numeric messages	80/80	100/100	100/100	100/100
Pre-programmed Phone-Page Alpha/numeric messages	0	20/20	20/20	20/20
Database location	Local or Server	Processor	Processor	Processor
Database Back-up location on disk	*	Local or Server	Local or Server	Local or Server
Compu-Page "Sent Messages" logged on disk	Local or Server	Local or Server	Local or Server	Local or Server
Phone-Page without PC messaging;				
Maximum number of:				
Pagers	*	500	500	500
GSM Cellphones	*	500	500	500
Pagers and GSM Cellphones	*	500	500	500
Add or alter pre-programmed Phone-Page messages	*	✓	✓	✓
Remote positioning of Local-Page housing	*	✓	✓	✓

The Compu-Page software messaging program is a licensed package, available in four versions, according to the table above. Distributed on one CD, an "unlock code" is supplied when the customer registers his package - the specific unlock code issued makes the different features accessible.

On installation, the software installer chooses an "Administrator Code" which prevents operators from changing or adding pager or cellphone details, or altering set-up parameters. Access for operators to change pre-programmed Phone-Page messages is also restricted. When the Administrator is logged-off, operators may alter only the names of personnel, and alter, delete, or amend non-Phone-Page pre-programmed messages. Every PC operator may enter or amend the Group Calls specific to that machine.

Messages sent via the Compu-Page program are logged to disk along with time and date, and the name of the computer station sending the message. These messages may be reviewed and printed. Naturally (since paging is only a "one way" medium), the receipt of a message by a pager or cellphone cannot be logged. Messages sent using a Phone-Page interface are not logged.