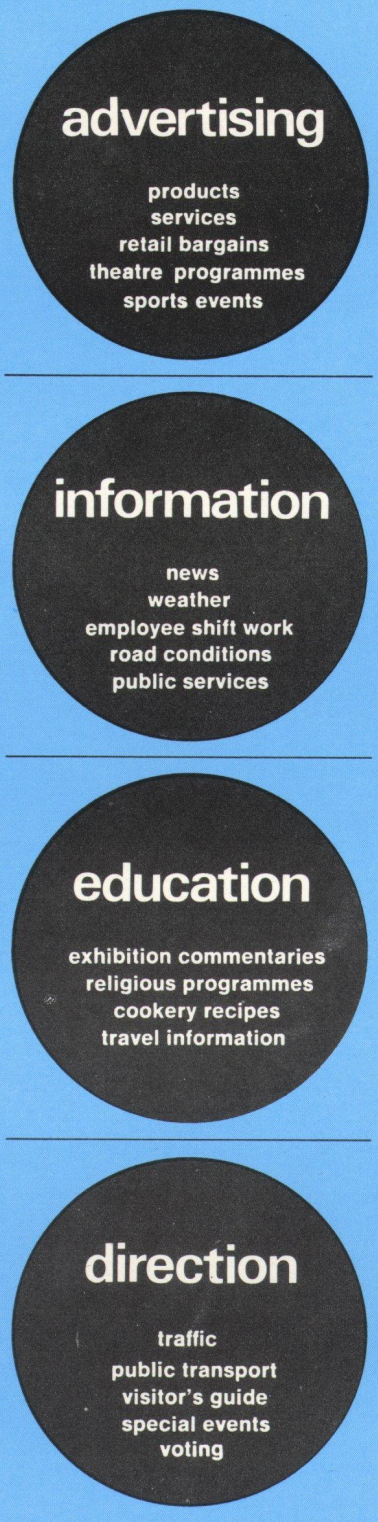
Plessey variable message repeater VMR Mk II

Recorded information services

During recent years recorded information services have increased both in scope and popularity. There are now more services available than ever before, covering a wider range of subjects, and more people regularly depend on them for fast accurate up-to-date information. Investors use them to get the latest stock figures — sportsmen get weather forecasts, team scores, snow reports or news about where the fish are biting — aircraft pilots get landing or take-off data — the general public use them for weather announcements, entertainment guide, recipes, religious announcements, travel information and a number of other subjects.
Most recorded information services operate through the telephone network, but a growing awareness of their versatility and value has created an increasing demand for special purpose installations.
One notable example is in airport traffic control. Every landing and departing aircraft requires certain meteorological data and runway conditions. To provide this data to the pilot, the airport traffic controller had to read the information from a sheet of paper into his radio microphone. With a large number of aircraft to handle, this could take up a considerable amount of his valuable time. Now it is becoming common practice to make the meteorological data available to pilots by means of a Variable Message Repeater. The installation can be arranged so the pilot has access to the information by switching to a special radio frequency or so that the aircraft controller can switch it into his radio link simply by pressing a button.

recorded information services provide :



Verbal information services for the general public or for specific personnel can be provided through

- Post Office Telephone Networks/ Exchanges
- Radio Transmission Networks
- Internal P.A.B.X. Telephone Systems
- Amplified Public Address Systems
- Verbal Identification for Terminal Equipment

Typical installations

A basic installation for a continuous, uninterrupted service will consist of two variable message repeaters and a change-over unit. In certain cases the installation could consist of a VMR, a light duty telephone answering machine and a change-over unit. The installation can be connected to a telephone exchange with a single tie-line, or can be connected to the network with up to five direct lines. The actual arrangement of the installation will be determined by the actual service requirements.
For instance, a service with full-time operator attendance where the message must be changed more than once per day and a dense call rate is expected (such as news or weather) would consist of: Two VMR units and a manual change-over unit connected via a single tie-line to the telephone exchange where distribution would be effected.
Services with more than one message change per day, but without full-time operator attendance would require two VMR units, an automatic change-over and a tie-line to the telephone exchange (for busy services) or up to five direct lines (for services with lower call rates).
Services where the message is changed daily or less frequently (such as daily prayers, bible readings, etc.), can use a light duty message repeater (such as a telephone answering machine) as a standby unit in place of the second VMR unit.

Typical recorded voice services in Australia and overseas

Weather forecasts
News
Sports results
Lottery results
Theatre programmes
Shipping information
Road conditions
Snow reports
Travel weather
Tourist information
Situations vacant
Daily Bible readings
Cookery recipes
Train timetables
Daily horoscopes
Cosmetic advice
Tide reports
Daily prayers
Film publicity
Stock exchange reports
Racing and betting results
Election results
Shopping bargains

Plessey variable message repeater

The Plessey Variable Message Repeater is specifically designed to provide the versatility, extreme durability, and reliable operation required by modern information service installations. The machine is designed and built for continuous heavy duty service in excess of 20 years.
It is a compact magnetic drum recorder/reproducer designed to re-cycle a single message of up to three minutes duration with a minimum of "dead time" between cycles. It is a "multiple access" type — the message can be connected to a large number of callers simultaneously.
The functions of the unit are controlled by a single lever switch and full remote control facilities are available. The unit can be wired permanently into a system and is designed to mount in a standard 19″ rack or to be free standing. It is compactly designed for the ultimate in simplicity of operation and embodies many features which ensure long term reliability.

Exclusive Features

The Plessey Variable Message Repeater is the only machine of its type with electronically activated re-cycling of the recorded message, controlled by the message duration. This is achieved by an "end-of-message" pulse automatically recorded at the end of the message. This pulse sets the message length. Immediately the "end-of-message" pulse is detected during replay the equipment instantly recycles to the start of message. Unnecessary dead time is completely eliminated between message repeats. This makes it unnecessary to pre-time the duration of messages before recording: each message can be anything up to three minutes in length. In fact, recording a message on the Plessey VMR is simpler than using a telephone: just press a lever key, speak the message into the microphone, restore the key again. Everything else is automatic.
The key starts a sequence of circuit switching functions; the previous message is erased, the correct recording level is set up and automatically maintained. When the key is restored at the end of the message, a 50Hz tone pulse is automatically recorded on the drum. It is this tone pulse which activates the re-cycle mode and ensures that the message is repeated immediately.
In effect it constitutes a "full stop" at the end of the message so that re-cycling is controlled by the duration of the message and not by mechanical means or by the duration of the recording medium such as in the case of endless loop type tape recorders. Message duration is therefore completely variable within the maximum of three minutes and as recording is virtually automatic, each message can be recorded by anyone with a suitable speaking voice.

Exceptionally Durable Recording Drum

The recording medium is a thick neoprene band impregnated with iron oxide, lubricated with oil to ensure exceptionally long recording head life. The band is many hundred times thicker than ordinary recording tape, and the iron oxide is impregnated through the full thickness of the band. The band will last the lifetime of the VMR.

Mechanical Construction

Designed for continuous use over 20 years with heavy duty castings including the main chassis and bearing houses — ball races or needle roller bearings on all moving parts — linear bearing ball bushes on all sliding mechanisms — self lubricating scroll and stylus — air dashpot to dampen the return movement of head carriage mechanism.

Electronics

Telecommunication grade components used throughout — mounted on individual plug-in printed circuit modules. Epoxy glass printed circuit boards with gold plated edge connections — all iron cored components are encapsulated — all relays covered — all resistors are either metal oxide or wire wound — sealed trimming potentiometers.
Maximum possible use of tantalum capacitors — silicon transistors and diodes used throughout.

specifications

Frequency response
200 Hz to 3500 Hz within ± 4db

Distortion
Less than 3% at 1KHz at reference output*

Signal to noise ratio
Better than 35db below reference output*

Wow and Flutter
Less than 1% rms

Carriage return tone
50Hz 0.25 seconds duration

Tracks
One track, 3 minutes duration maximum

Recording medium
Ferro magnetic impregnated neoprene band

Inputs
Balanced 600 ohm line
Balanced 200 ohm microphone

Output
Balanced centre tapped line capable of delivering 500 milliwatts into a 6 ohm load

Record level control
Automatic preset

Erasure of previous message
Automatic during record mode

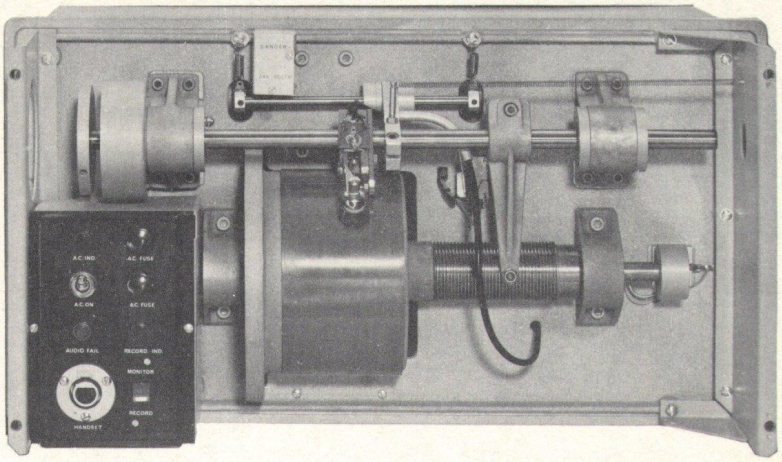
Mounting
Standard 19″ rack — does not protrude forward or backwards more than 7″ from rack centre line. Height 10½″

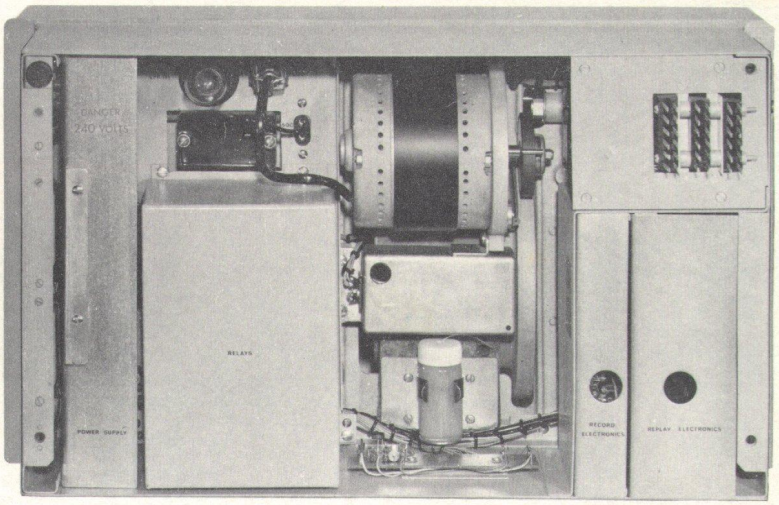
Start/Stop operation
Starts on earth signal from ancillary equipment; stops on completion of message after signal is removed

Re-cycling time
0.5 second to 6 seconds maximum

Audio failure alarm
Alarm lamp to indicate:
a) Start failure
b) Running failure
c) Power failure
d) Loss of audio programme.
The alarm includes auxiliary contacts for connection to an external general alarm system

Environmental
+10°C to +45°C ambient temperature
(APO Specification No. 1991 refers)





Remote operation
Full remote operation possible

Control
Single lever key switch

Fuses
1A fuse in each mains lead

Weight
65 lbs.

Supply Voltage
240 volts 50 cycles

Power dissipation
132VA maximum

*Reference output equals 500 milliwatts into 6 ohm load.

PLESSEY
Electronics

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