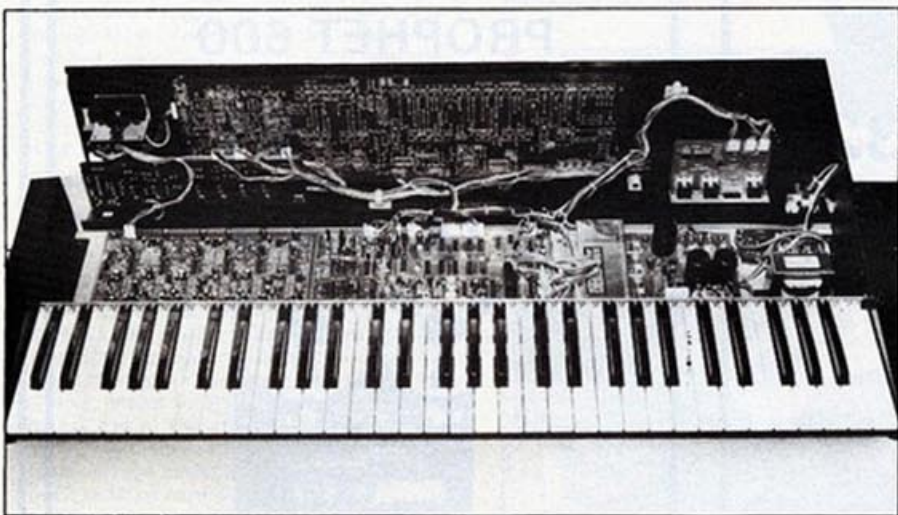


ROLAND JX-3P

PROGRAMMABLE PRESET POLYPHONIC SYNTHESIZER AND PG-200 PROGRAMMER

Roland's current range of keyboard synthesizers now includes (from top price down) the Jupiter 8, Jupiter 6, Juno 60, Juno 6, the MC-202 MicroComposer, and the SH-101 portable mono synth. The JX-3P costs £900 inc. VAT and fits in between the Juno 6 and the Juno 60 — even with the PG-200 at £195 inc. VAT it comes out £100 cheaper than the J-60. The PG-200 will also be used with another polyphonic instrument that Roland hope to bring out before the end of the year.

Since this kind of 'on board' editing can only change one parameter at a time, the optional programmer PG-200 makes synthesising a lot easier by means of its conventional analogue controls. The PG-200 can be used for quick tailoring of any sound patch or it can set up an entirely new sound. The idea of the separate programming unit is to let you set up your sounds in advance and then use the JX-3P on its own when you are playing.



JX-3P opened up.

The JX-3P has a built-in 128 step sequencer that will hold up to six notes on each step, entered together or 'multi-tracked'. Both the sequencer data and patch programs can then be saved using a standard cassette recorder, and the inclusion of MIDI In/Out connectors considerably expands the potential of the instrument.

Layout

The JX-3P has a low profile cabinet that is slightly angled towards the player, measuring 912 x 325 x 115 (WxDxH) mm. It weighs only 9.8 kg and comes with a music rack, fixed mains cable and two output leads. The standard keyboard covers five octaves C to C and is housed in a wooden base with metal top panel and black plastic moulded end pieces. The main panel is black with reddish brown colour trim that's also used to indicate user memory buttons, blue trim for pitch bender and preset Bank B, green for preset Bank A, and white lettering.

The sleek finish is due to the use of slightly raised satin finish square metal

buttons throughout, with LED on indication, for LFO Trigger, Chorus, Mute, Hold, Key, Transpose, Edit: Group A, B and Write, Sequencer: Write, Tie, Rest, Start/Stop, and Tape Memory. There are also four Bank Select buttons for sound selection of Banks A or B (the factory-made presets), C or D (the user defined memories), and 16 individual sound selection buttons making 64 available sounds in all.

These latter buttons are also assigned to have extra functions that indicate note sequence steps, and enable editing of sounds as well as cassette transfer of sequences or programmed sounds.

There's also a black plastic 'sideways' Pitch Bender (with range switch), rotary output Volume Control, and three short travel sliders for Brilliance (treble boost or cut +/-5), Sense (edit control 0 to 10) and Sequence Rate (0 to 10).

At the rear of the main panel is a row of standard jack sockets for mono/stereo out-

put (switchable to -30, -15, or 0 dBm), stereo headphones (Roland do an optional RH-10 headset), Hold pedal (for control of 'Sustain' part of envelope, using Roland DP-2 footswitch or any 'single-make' switch). A socket for control of the Sequencer from an external trigger is provided (Roland's usual 9-15V positive-going pulse), with Tape Save and Load sockets, and a small rotary Tune control for quarter tone adjustment of overall pitch (centred at approximately 442 Hz).

A second group of connections has power switch, 6-pin DIN Programmer socket link, MIDI In/Out 5-pin DIN sockets, and a three-way selector switch for Memory protection on or off or MIDI control of the instrument.

At the right end of the main panel is space for the small PG-200 unit and as this has two magnetic non-scratch plates on its base, it clamps securely in position (provided you don't angle the instrument over 45°!). The unit is colour-matched to the JX and has a black metal case with black rubber ends, reddish brown trim, smart satin controls and white lettering. The connecting lead provided is only two feet long, so presumably the

intention is to keep the PG-200 close at hand, but it does have sensible locking DIN plugs.

Preset section

One of 32 factory programmed presets or 32 of your own presets are available by pressing Bank buttons A, B, C or D, then selecting a numbered button (1 to 16). Bank A contains String I, II, Organ I, II, III, Brass I, II, Electric Piano I, II, Clavi, Harpsichord, Vibraphone, Chime, Celesta, Accordion and Voice. Bank B contains Violin, Flute, Oboe, Song Whistle, Synth Brass I, II, Dist. Guitar, Juicy Funk, Filter Flow, Fat Fifth, Sync Wah, Sync Sweep, Funky Clavi, Pulser, Planet and Jet.

The dual DCOs with sync and 'metal' functions give a surprisingly large range of sounds, even though only one envelope is available. The built-in Chorus effect does a lot for ensembles like Strings and Brass and all the sounds have their own distinctive quality without being just simple variations. The inclusion of noise makes the instrument capable of good sound effects as well.

Performance controls

The Pitch Bend is more chunky than usual and is spring-loaded to return to centre. Next to it is a Range switch for setting maximum pitch bend up or down to 2, 4 and 7 semitones. There is a good centre 'dead' area to keep normal tuning stable, but a noticeable low frequency 'glitching' can be heard if the bender is moved quickly, although it is only really evident in the studio recording situation.

Instead of a second bend lever for LFO modulation, there is an LFO Trigger button. This turns on the LFO modulation (sine, square or random) that has been pre-programmed into a particular patch. Of course, it's no real substitute for the manual control — that's all part of the keyboardist's performance! Once you've got used to it, you begin to wish it was on a foot pedal to keep your hands free for playing. By using delay modulation the effect can be quite subtle, yet dramatic at full depth, with polyphonic playing.

A Brilliance slider adjusts treble boost or cut and it is often nice for adding more 'edge' to the sound. Also located at this left end in the 'Performance' control area is the Volume control, Chorus on/off button (the usual good quality stereo enhancement from Roland that keeps the brightness of the top frequencies very well — and the extra hiss is of little consequence), and a Mute button that will either reduce the volume of the lower two octaves or the volume of the Sequencer, to enable the right-hand soloing to come over at normal level. This is particularly effective with the sequencer if you are adding parts over the top in 'real time' from the keyboard.

As well as the Hold button, linked to the Hold socket already mentioned, there is a Key Transpose button for transposition into any key (of keynotes or sequence). Pressing this button followed by the root note key anywhere on the keyboard will transpose

dumps, the JX-3P seemed to favour a reduced level input on Load — to allow the lower output levels on stereo cassette decks to function as well.

Editing

It is important to realise that you can in fact edit any of the 64 sounds in the instrument during a performance. The actual drawing on the front panel of the JX-3P is termed an 'Edit-Map' and shows each control as a numbered function in one of two sections A or B. Using the Group A or B edit buttons and a preset selector button 1 to 16, you can select the particular parameter you wish to alter. The LEDs in the preset banks then show the current status of that parameter: Switch settings will be shown on the bank buttons A, B, C or D and variable settings are seen on a numbered button LED as a position 1 to 16.

Editing is done by simply pressing the new bank button for 'switches' and moving the Sense slider for 'variables' (with a numbered LED selection button indicating the new setting). The new sound will remain even when you have left edit mode (by pressing the Group A or B edit button in use), but as soon as you leave that particular preset location, you lose your new sound unless you 'Write' it in one of the user preset locations in banks C or D.

PG-200

The rotary controls of the PG-200 are labelled 0 to 10 and on-board editing as just mentioned is done over 1 to 16 for the variable parameters (although the Sense slider is marked 0 to 10). By some movement of the Sense slider during editing (or a quick conversion of the 16 scale to a 10 scale) you can set up any of the existing sounds on the programmer unit. The idea of it is, of course, to create newsounds, but this is a great way of learning about synthesis — take the 'Chime' preset, for example, which is very realistic.

The controls of the PG-200 are neatly grouped in DCO, VCF, VCA, LFO and Envelope Sections. Pressing the Manual button switches the sound output to the unit's controls ready for creating a new sound completely from the following controls:

DCO-1 This has a range switch (16', 8', 4') and a Waveform switch for sawtooth, pulse or square wave selection. The pitch of this oscillator and DCO-2 can be modulated by the LFO and/or the Envelope, with individual assignment switches and common LFO and Envelope (normal or inverted) Depth controls.

DCO-2 has a range switch (16', 8', 4') and a Waveform switch for sawtooth, pulse, square or noise. There is also a Tune control for +/- 1200 cents overall pitch adjustment (approximately two octaves), Fine Tune for detune effects (+/- 50 cents), a Cross Modulation switch that offers a synchronisation of DCO-2 with DCO-1, and 'Metal' that gives basic ring modulation effect between the two oscillators (DCO-2 output signal controls DCO-1).

Closer examination of the waveforms on a scope showed all 3 basic waves (with filter fully open) had strong high harmonic content which gave a feeling of extra brightness. The pulse wave was very narrow, while the sawtooth wave (without resonance) looked more correct at cut-off setting 5 and like a sine wave at setting 3.

By using DCO-1 in Sync mode, a kind of pulse width modulation (more like sync harmonic modulation) is achieved by rotating the Tune knob. The pitch settings of both DCOs are important to get the right sound (for example, you'll lose all sound at 4' and 16' setting of DCO 1 and 2 respectively).

VCF This is based on a low pass filter and has

a Source Mix control for balancing DCO 1 and 2, High Pass Filter Cut-off, Low Pass Cut-off, Resonance, LFO Mod, Envelope Mod (normal or inverted), Pitch Follow (for keyboard tracking of filter).

The Resonance control gives very smooth control of peaks and at maximum pulls out the individual harmonics without going into full oscillation (giving that Roland Jupiter feel to your sound!). However, using the noise source with full resonance will create sine wave pitches controlled by the cut-off frequency.

VCA There is plenty of volume on this instrument and a clean signal throughout that is set by the VCA gate or envelope and the VCA level control.

LFO No surprises here, but plenty of control from sine, square or random waveforms that modulate the filter and the pitch (around the note up and down a major third maximum). A Delay time can be added to give full modulation after some six seconds.

Modulation rate is from one cycle every six seconds to a fast 10 Hz 'trill' approximately. The random generation of notes is limited to the major third deviation around the note played.

Envelope This uses standard A, D, S, R controls, with maximum Attack around 3.5 secs, and Decay and Release 12 secs.

Finally, the Chorus switch adds a stereo effect and a Write button tells the JX to expect a new sound to be put into a user preset location in banks C or D.

MIDI

It is early days for the MIDI software, but there are sure signs that some people will make a lot of money from this exciting development. In the meantime, E&M's own MIDI interface board can be hooked up straight away to the JX-3P and a Sinclair Spectrum micro, and in due course we'll be offering MIDI packages for most micros on the market. We'll also give you basic software to get you started whenever we can and for those who aren't bothered about programming, we'll have SOFTMUSIC data cassettes available.

If you want dual sounds on the JX, you'll have to link it to another JX through the MIDI bus (who can afford to do that?) and by connecting it to a MIDI support instrument or micro with a suitable interface (see E&M May 1983), you'll be able to control the notes



Edit-Map

played. Hold on or off, the Pitch Bender, and the selection of the preset sounds. By pressing buttons 14, 15 or 16 prior to switch on, you can omit one or more of these control features.

Summary

This instrument represents the cheapest way to get into the MIDI polyphonic world and despite its low cost, has sufficient synthesis features to produce good poly sounds.

The built-in Sequencer is a useful 'scratch-pad' area for riffs, fills and starters but not much more. Still, if you link it via an external trigger, it could be the basis of a polyphonic sequence like that featured in E&M January 1982 issue with Tangerine Dream's music Chronozon. To have a sequencer thrown in for the price can only be good news for most of us.

I'm not so sure that you would want to be without the PG-200 once you'd bought it, although it does ease the purchase costs by splitting it in this way.

The JX-3P is certainly very good value for money and will obviously retain its on-going usefulness from the MIDI connection. It also contains that special combination of analogue control for a digital system that has already proved to be the approach many musicians prefer.

E&M

The Roland JX-3P and PG-200 are distributed in the U.K. by Roland (UK) Ltd., Great West Trading Estate, 983, Great West Road, Brentford, Middx. TW8 9DN. Tel. 01-568 4578.



PG-200 Programmer.